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# SIMULATION OF INSANITY.

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Simulation of disease, in a general sense, is the pretense of experiencing feelings or understandings differing from those in reality experienced, *i. e.,* a voluntary attempt to imitate objective and to report falsely subjective symptoms. This false pretense may be practised in three ways: (1) By hyperlation, which is an exaggeration of feelings of the same character as those experienced; (2) by simulation, a pretense of feelings differing in character in a pathological direction from those actually felt; and (3) by dissimulation, a pretense of experiencing physiological sensations when pathological are really present.

In the following I shall confine myself altogether to the consideration of the second of the three ways of feigning, as observed in individuals whose efforts are devoted to the simulation of abnormal mental states, *i. e.,* simulation of insanity.

Attempts to feign insanity may almost be traced as far back in the history of mankind as allusions to insanity itself. The Bible tells us that King David shammed madness when "sore afraid of Achish, king of Gath," and Ulysses did the same to escape the Trojan war. Lucius Junius Brutus is said to have feigned imbecility to save his life, and Solon simulated insanity to inflame the Athenians to make an attempt to reconquer Salamis.

Insanity is usually simulated to escape responsibility for action,—most frequently by persons accused of some crime, who resort to this to escape conviction or secure a lighter sentence by raising a reasonable doubt in the minds of the jurors. Sometimes convicts in prisons pretend to be insane so as to bring about their transfer to an asylum where they will not have to do hard work, will have less vigorous discipline, and where they hope to get an opportunity to gain their liberty. In Europe, particularly, conscripts and soldiers present themselves with apparent symptoms of insanity in the hope of getting rid of serving in the army. *Krafft-Ebing mentions that this simulation is sometimes done to escape unhappy marriage ties. In the case of a woman committed to the Stockton asylum, which, however, proved to be simulation by an insane person, the malingering was prompted by a desire to prevent the husband from getting a divorce. Indolent persons without home or ambition have also been detected in feigning insanity to gain admission to hospitals or asylums. Such a case was observed by me at the Stockton institution of an individual who was too lazy to earn a living for himself. His desire for simulation of insanity was satisfied after he had been an inmate of a filthy ward for some time. A remarkable case of simulation of insanity by a reporter occurred about thirteen years ago. He feigned the suicidal attempts of melancholiacs by jumping into the Stockton harbor and allowing himself to be fished out, pretending afterwards extreme despondency. His motive was to gain an entrance to the asylum for the purpose of giving the internal workings of it a "write-up." A rare motive for feigning epilepsy is the attracting of the attention of bystanders by thieves while confederates pick their pockets. This has been observed in England, where the thieves called such specialistic feigners "dummy chuckers."

As just stated, simulation of insanity is most frequently observed in criminals, who, after their escape from conviction and transfer to an asylum, hope, unless they are to be returned to the sheriff upon recovery, to spend a shorter time there than they would have had to do if convicted and sentenced to the penitentiary.

The convict simulates when too lazy to do hard work or because he hopes to find an opportunity to escape. Such escapes have occurred in a number of instances at the different California asylums, which are not so constructed or so guarded as to thwart the cunning schemes to gain liberty which convicts are capable of successfully executing. A noted burglar and simulator of insanity, one Phil Crowley, escaped from the Stockton institution in May, 1895. He showed a great deal of crafty intelligence in avoiding arrest when at large in the mountains of San Jose until he was ready to go beyond the borders of the state. Such cases have not only the gaining of liberty as a stimulus for their efforts at feigning, but no doubt find employment and diversion in a comedy of simulation to fill out the tedious time of their confinement. Doing this is, in reality, only a repetition of the work of their profession of trying to collar their fellow-beings, probably taking as great an interest in deceiving hospital physicians as in fooling the police, their ambition to succeed inspiring them the more the greater the difficulty they have in deceiving the physicians.

Whether simulation of insanity is more common than simulation of other diseases is difficult to say. The latter cases are no doubt less frequently published; there is less reason for making a close study of them, and the physician is, therefore, more often deceived. Attempts at simulation of insanity by men accused of crime have probably been more frequently made in the United States than in Europe, because of the greater liberty and privileges extended to such persons in this country; at the same time, the criminal is not deterred from feigning by reason of fear of greater punishment, should his efforts at simulation be exposed. In this country it would seem that pleas of insanity by criminals occur in epidemics. There has been such a small epidemic in this country during the past year. In looking up the records of the district attorney of San Joaquin County, I find that during the last ten years seventeen insanity pleas (three of which proved to be real insanity) have been brought up in three hundred and eighty-two felony cases, which came to trial or in which the defendant plead guilty,—a ratio of about one to twenty-two and a half, or 4.45 per cent. Of the fourteen cases of feigning, six occurred during the year of 1900. The following table shows the distribution of the cases:—

PROSECUTIONS FOR FELONY CASES IN THE SUPERIOR COURT OF SAN JOAQUIN COUNTY DURING THE DECADE OF 1891–1901.

| | 1891 | 1892 | 1893 | 1894 | 1895 | 1896 | 1897 | 1898 | 1899 | 1900 |
|---|---|---|---|---|---|---|---|---|---|---|
| No. of cases tried | 20 | 18 | 18 | 12 | 25 | 16 | 21 | 11 | 17 | 19 |
| Plead guilty | 24 | 26 | 19 | 8 | 14 | 28 | 23 | 26 | 17 | 20 |
| Total | 44 | 44 | 37 | 20 | 39 | 44 | 44 | 37 | 34 | 39 |
| Dismissed | 39 | 46 | 33 | 31 | 24 | 9 | 19 | 13 | 39 | 27 |
| Total | 83 | 90 | 70 | 51 | 63 | 53 | 63 | 50 | 73 | 66 |
| Insanity pleas | 2 | 2 | 0 | 1 | 3 | 2 | 1 | 0 | 0 | 6 |

Total number of apprehensions during the ten years 662
Total number convicted or who plead guilty during the ten years. ........ 382
Total number of insanity pleas during the ten years ...... 17
Ratio of insanity pleas to the cases tried and plead guilty 1:22.47=4.45°/o
Ratio of insanity pleas to the total number of apprehensions .......... 1:38.941

That simulation of insanity is more rarely met with in Europe than in America is perhaps also accounted for by the careful examination made there of a suspected simulator; he is sent to an asylum for observation by experts who are given full opportunity for thoroughly understanding the case. Professor Furstner, of Strasburg, however, thinks cases of simulation are on the increase in Germany of late years; especially is this said to be the case near large cities. Binswanger found twenty-one feigners among seventy-three arrested, supposedly insane persons, who in the course of two years entered the charity hospital, while Ideler and Sander did not find any clear case of simulation in the large "Pflege-Anstalt" at Berlin. In the clinic at Heidelberg, Furstner examined twenty-five criminals alleged to be insane, and found among them twelve malingers. Schule did not find a single simulator among thousands of patients at Illenau in the course of a number of years. That simulation of insanity is rare in Germany is supposed by Furstner to be due to the difficulty of imitating insanity, unless one has had opportunities for self-observation by coming in close contact with insane persons. It is also possible that fear of being sent to an asylum to become mentally deranged by contact with real insane persons may deter others from simulation.

The pleas of insanity brought forward by counsel for the defense may be divided into two classes: In one it is claimed that the defendant was insane when he committed the crime, but is sane at the time of the trial, *i. e.,* he suffered from a primary mental ailment from which he has recovered. This is the plea of alleged insanity. In the other, he is insane when up for trial, presenting at this time symptoms of insanity, and having a history in which the mental ailment may be traced back to a time prior to the act of violence; both instances dealing with a criminal insane and not an insane criminal. The first-mentioned class of insanity pleas is greater by far than the latter, probably for the reason that in the cases where the insanity plea is set up to defeat the law, it is easier for the counsel on the defense to maintain a plea which supposes the defendant to be sane now and to have given evidence of insanity in the past. At the same time it is less of a strain on the defendant than if he feigns, and besides he takes the risk of failing in his performance of malingering. While the burden of proof as regards the crime falls upon the prosecution, under the supposition that a person accused of crime is innocent until proved guilty, the burden of proof in the insanity plea falls upon the defense, as the person to be tried on an insanity charge is supposed to be sane until proved insane. Simulation of insanity can, properly speaking, only be considered to have been practiced in the second class of cases, although one might, perhaps, understand simulation to be passive in the former and active in the latter instances.

Whenever a physician is called upon to examine a person arrested and accused of crime who presents symptoms of insanity, he should think of simulation; at the same time, he must not forget that there is a close relationship of criminality to insanity. In some of the English prisons, twelve per cent of the inmates have been said to be insane. In this connection,[2] Dr. E. Kirstein, of Copenhagen, says: "If crime may be considered an unavoidable consequence of the morbid constitution of the individual, one might, perhaps, from the standpoint of a layman, be tempted to exclude cases of simulation in a criminal from the scope of insanity, in so far as

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there seems to be an evidence of greater moral depravity in simulation than in crime if one considers crime a necessary consequence of the nature of the individual." Experience has, however, shown that simulation is more closely connected with insanity than with criminality. The former may have developed after the commission of the act with which the accused is charged. He may be already more or less truly insane, and may simulate or rather exaggerate his delirium, a phenomenon noticed by many observers. Such a person may be suffering from hereditary or idiopathic psychoses, or he may be more or less imbecile. It has even been said by some that it is necessary to be more or less insane to simulate insanity. While some cases of simulation reported in the literature may have proved to be cases of insanity, there can be no doubt that many cases reported have been cases of pure simulation. Morel, Tardieu, V. Krafft-Ebing, Laurent, and many other writers have reported such cases. In determining the question whether one is dealing with a simulation in a person who is mentally sound or one who presents some mental peculiarities, the previous history of the case will be of some assistance. The insanity of the lunatic who feigns is rarely, if ever, of recent date or an acute form, although, as stated above, cases have been known in which it developed during the imprisonment and led to the simulation. Sometimes the feigner will claim to be insane, which in itself might make one suspect simulation, but it does not exclude insanity disease; insight is occasionally present in mental disease. It is, however, the usual thing for the lunatic to claim to be sane, and, therefore, the simulator generally claims to be sane. Where the case to be examined is a person belonging to the criminal class, one must not forget, as Dr. E. Kirstein, of Copenhagen, says in his treatise, the many chances there are for causes, such as excesses, head-trauma, and previous long-continued imprisonment, when coupled with inherited disposition, to have led to the development of a mental trouble. Prison confinement in itself is apt to originate hypochondriacal and persecutory ideas—ideas that the people are forcing the prisoner to commit crimes—and should a mental trouble set in, the form is apt to be atypical, frequently originating the most common form met with in ex-convicts, Verrucktheit, or chronic paranoia. One finds in such cases a series of symptoms, arousing one's suspicions that they are being simulated, a variety of mental peculiarities being at the same time present, which may be of sufficient import to exclude mental responsibility.

The difficulty of the task of a simulator is very great, and one can understand this when contemplating the strain upon the nervous system of a great dramatic actor who plays the part of Shakespeare's *Hamlet* or the inanition-delirium of the closing act of *Beau Brummel;* and in these instances the actor imitates, as the result of careful study, an insane person during short intervals of time, while the malingerer must not only make his performance continue over a period of time covering weeks and months, but must improvise his part without assistance. He must be playwright, actor, and prompter, all at the same time. The simulator has to be in constant activity, as V. Krafft-Ebing says in his text-book, while the actor can leave the stage from time to time and rest himself.

As regards the form of insanity adopted by the feigner, one would naturally think that this would vary as much as a layman's idea of insanity generally does. This is, however, not the

The property of and must not be taken from THE HAHNEMANN HOSPITAL COLLEGE

case; the forms of insanity simulated vary so little comparatively, that it is most remarkable, especially considering the indefiniteness of the limitations of mental as compared with physical disease. Different authors have given various subdivisions under which the forms of simulated insanity are usually met with. [3]Regis, following Tardieu, speaks of the following forms as most frequently tried by impostors, acute mania, dementia, melancholia, ambitious insanity, alcoholic insanity, and epilepsy. Binswanger divided them into stuporous forms, forms with hallucinations of fear and cases of maniacal frenzy. [4]Furstner, objecting to placing them within such narrow limits, classified them under the head of dementia (Blodsinn), the most frequently-occurring form, in which feeble-mindedness is often associated with apathy or silence, and incorrect verbal and written response. Next in frequency of occurrence he finds simulation of consciousness—defects, especially repetitions of such as are claimed to have been present when the defendant committed the crime, the defect of consciousness being combined with hallucinations, and a peculiar behavior in the interim between the different attacks.

A third form is made to include states of exaltation, associated with irrational talk and tendencies to violence. This form of simulation is said to be found, in some cases, in individuals who show real mental peculiarities; in other cases it is found connected with a history of opportunities on the part of the simulator to study closely symptoms of persons who suffered from real insanity. The fourth group of Furstner's classification is called "cases with diversified symptoms," a subdivision which embraces mental impossibilities, it being characteristic of real insanity that most cases show distinct forms without transition from one to the other, while simulated insanities show a certain protenslike clinical picture. [5]Dr. Dietz, of Stuttgart, Germany, differentiates between two well-marked fundamental types of simulation; one of them, characteristic of the mentally normal individual, which is perhaps not often met with; the other is more characteristic of the ethically degenerated person. This latter, having more to conceal of what slumbers within him than the normal individual, can hope to succeed in this the better the less the pre-selected mask of simulation comes in contact with his real feelings and the less it is allowed to be brought into sympathy with them; the normal individual is more apt to succeed in feigning if he clothes his real feelings and thoughts in such a way as to make the impression upon the observer of something pathological. He does not have to conceal his feelings, and at the same time he makes the impression of being mentally ill. An analogous example—only in reverse order—is given by the stage: The best actor impersonating madness is only he whose feelings and emotions swing like a pendulum in full harmony, to a certain extent, with the diseased mental life which he seeks to demonstrate.

At one time it was considered very difficult, if not impossible, to feign successfully epileptic seizures, but of recent years epilepsy has not been excluded from the list of diseases that may be simulated; in fact, Dr. Louis Meyer maintains, basing his opinion upon a very large experience, that there is nothing more easily simulated than the epileptic convulsion. [6]Dr. J. Salgo, of Budapest, Hungary, had a patient who escaped military service on account of a severe epilepsy which he feigned. This patient was able to demonstrate repeatedly at command one of the most classical convulsive attacks. There was not even an absence of the bloody-serum at the mouth, the secret of the ingenious fabrication of which he afterwards imparted to his physician. Dr. Salgo reports another case of simulated epilepsy, in a convict, which was kept up for one and one-half years, the attacks presenting a recognizable aura, an apparently complete unconsciousness, general clonic spasms, dilated pupils, foaming at the mouth, stertorous respiration and sleep. It was afterwards satisfactorily demonstrated that the attacks had been feigned.

A criminal's great obstinacy and will-power, as illustrated by the case just mentioned, is well known, and sometimes he has been known to resort to acts, observed in lunatics with whom he has previously been in contact, which require extraordinary powers of self-control to overcome the loathing such acts would inspire in a normal person. Feigners of this class have, for instance, been known to drink their urine, and they have refused food for a long time. In some instances they have been detected in stealing and eating food from associates, which, however, is not necessarily an indication of simulation, as real lunatics who suffer from sitophobia sometimes do this.

The extent to which criminals know how to benefit themselves by taking advantage of opportunities for acquiring knowledge pertaining to simulation is shown in the above case of simulated epilepsy reported by Dr. Salgo. After the simulation had been unmasked, he explained to the doctor how useful the demonstrations at the latter's clinical lectures had been to him. Hearing that pressure upon scars sometimes caused epileptic attacks, he promptly had a seizure when the pressure was made, and when he heard the professor explain that the removal of scars had cured epilepsy, he submitted to an operation, and had fewer attacks after the scar had been enucleated, having by this time any way become quite exhausted and tired of the simulation. Long-continued simulation has, in fact, a very depressing and sometimes injurious effect on the faculties of the subject, and may cause more or less mental disorder. The criminal, Derozier, whose simulation was unmasked by Morel, said to the latter: "You can not believe what I have suffered. I believed I was really becoming insane, and I have more fear of becoming a lunatic than of going to prison." Sometimes the general behavior of the simulator reveals his feigning upon careful observation. [7]Laurent says: "The aspect of the simulator is furtive, changeable, and sly. The countenance indicates forced expression, an unpleasant and significant lack of harmony. The criminal simulator can not give to his face the wild and excited appearance that belongs to the maniac. We recognize there only effrontery, and not mental aberration. Neither can he assume the genuine, indifferent, and enfeebled expression of the dement and paretic, the fixed gaze of the stuporous patient, the proud and haughty look of the monomaniac, etc. He can not conceal the attention he gives to every word and motion of him who is charged with studying his words and gestures, and very often he casts down his eyes, mistrusting the expression his looks might betray." He will sometimes betray emotions, such as merriment, when he does not know that he is being observed, will laugh at funny remarks made near him, though otherwise pretending to be despondent or apathetic. He frequently can not withstand the temptation of laughing at his own jokes. A smile was observed to suddenly light up the simulator's face in the second case herewith reported when he was asked what was the business of the person (his lawyer, whom he pretended not to know) addressing him, and he answered, he thought he looked like a Catholic priest. When the simulator is talkative, he makes his task much more difficult, *i. e.,* renders the unmasking of his simulation easier than when he is silent, as in the first case I have reported below. Silence, combined with great perseverance, may render the diagnosis of simulation difficult. The feigner tries to give silly and absurd answers, talks incoherently in the presence of the medical examiner, without showing a corresponding mental excitement, and misconstrues what is asked of him, or he refuses to answer for fear of saying too much. In the second case just spoken of, the criminal was asked, "Are you going out for a walk this evening?" He answered, "Yes, sir, I know you; I have seen you before." In the instance of Derozier, above quoted, Morel asked him how old he was. He replied, after some hesitation, "245 france 35 centimes, or rather 5 meters 75 centimeters." When he was asked if it were day, he answered that it was night. The feigner, as in this instance, thinks he must go to an extreme in varying from what would be a rational answer to a question.

It is almost impossible for a malingerer to feign hallucinations or delusions consistently. Sometimes the delusions will be too gross to be in keeping with the general intelligence present, or he will get them confused on different occasions. He will feign hallucinations without knowing that hallucinations of hearing are much more frequently met with than those of vision, which are only observed in certain forms of insanity, as in alcoholism, toxic insanities, and certain other forms; his hallucinations will be incongruous with the other mental manifestations. With regard to loss of memory, the malingerer frequently shows an enfeebled memory for the things forgotten last in true amnesia. In the second case herewith reported, the feigner did not know whether San Francisco was the name of a state, county, or city, while he knew he was not in San Francisco when confined in the Stockton jail, because when he looked out of the windows he saw no cable cars on the streets. At times the malingerer's memory defects will show that there is method in his madness. He will fail in remembering certain words, particular parts of words, or certain figures. Or the loss of memory may remind one of that observed in dementia accompanying epilepsy. In the real disease there is a certain variation from time to time in the degree of loss of memory, but when simulated, the memory defect will usually be found to begin and end abruptly, and relate to the same facts, when examined at different times. Just as it is the rule in physical diseases that there is a fixed succession in the development of symptoms, so is it the case in mental diseases that there is, to a limited extent, a general and uniform order of appearance of mental symptoms. Thus, where the question of insanity arises in the case of an elderly person, in whom it is claimed that the mental disease began early in life, the examination should, as a rule, reveal the existence of a dementia. Reversing the supposition, if one is dealing with a case presenting symptoms having the general character of a dementia, and one gets a history of a rather sudden onset, without a history of mental symptoms which had existed for months or years previously, the case is a suspicious one, especially when the actions and appearance of the person do not correspond with the range of ideas expressed by him verbally or in writing. It is the inconsistency of the symptoms which should make one suspicious of simulation. Just as the plot of a play must be plausible, so must the different groups of symptoms fit into one another like the episodes of the plot. When a symptom is present characteristic of one form of insanity, while another symptom, manifested at the same time, is pathognomonic of quite a different form, as in the case of Ivan Kovalev, the escaped Siberian criminal, who murdered the Webers in Sacramento, in December, 1894, and whose feigning insanity during his trial was reported by me in the "Occidental Medical Times,"* the clinical picture becomes blurred. Thus, mental confusion and disease-insight, stupor with silence, as far as speech goes, and written rational responses to questions are incongruous associations indicating simulation. Inconsistency is, however, not the only fault of the feigner; he is much given to exaggeration, which leads to a certain coarseness in his demonstration. The fault of the simulator of insanity is, in nine out of ten cases, that he goes too far; his anxiety to have his behavior carry conviction with it drives him to overdo the matter. This going to extremes was as characteristic of simulation in olden times as it is to-day. Ulysses yoked a horse and bull together, plowed the seashore, and sowed salt instead of corn.

A very important thing in the investigation of cases of simulation is to submit the different bodily functions of the individual to a careful examination. It is, in fact, in attempting this part of the simulation that many feigners come to grief, some forms of insanity being mainly connected with trophic or vasomotor changes which are difficult or impossible of simulation. The same may be said of variations in the weight of the body, developed in the course of certain psychoses. In illustration of this, I refer to the case of I. Z., reported below, who attempted to feign a stuporous form of insanity. Silence with apathy, aimless wandering about, and cataleptic symptoms, etc., were combined with a normal temperature and pulse, normal color and moistness of skin, a good appetite, and regular bowel evacuation, *i. e.,* there was an absence of cyanosis of extremities, of a lowering of the temperature and respiration, an absence of constipation, etc., so characteristic of stuporous melancholia and primary dementia. In connection with the study of the physical symptoms in a case of simulated epilepsy, Professor Voisin employed the sphygmograph, but the use of this in other forms of simulation has not as yet proved to be of advantage. In former years it was recommended and considered justifiable to use methods of harshness and repression toward individuals suspected of simulation, such as blisters, moxas, scarifications, the actual cautery, the surprise-douche, etc. Chloroform and ether have been made use of in some cases, the idea being that observation made of the person as he recovers consciousness and notice made of his remarks at this time might be of service in the unmasking of the case. Many writers, as Tardieu and Regis, have, however, loudly protested against these painful and sometimes dangerous methods, and will only accept really inoffensive means. Neisser reported a case where he based his diagnosis of insanity in an individual who at the same time presented symptoms of simulation, upon the absence of all effect on the mental condition of gradually-increased doses of tincture of opium until a maximum daily dose of seventy-five drops was reached.

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*The medical examination in the trials of the two Russians, Ivan Kovalev and Simon Raten.—OCCIDENTAL MEDICAL TIMES, September, 1896, page 572.

Neisser maintained that a normal brain could not endure this without giving symptoms, and he therefore concluded that an abnormal mental state was present. Kierstein mentions in this connection that it has been claimed that insanity develops an intolerance for alcohol, a point which might be of value. Heller has recommended strong electric currents in cases of simulation among enlisted soldiers, but this, like the other barbarous methods just referred to, should be considered obsolete. Ridicule and sudden surprise might have the desired effect on some simulators, and one French author, Garnier, recommends bluffing the patient. He addresses the feigner suddenly in a manner that leaves him no time in which to doubt that one has detected his simulation. Should he show hesitation, one may succeed in getting him to confess on calling his attention to his making his condition worse for himself by simulating. Kierstein quotes Renaudin as recommending the opposite procedure of appearing indifferent as to certain symptoms presented by him, which might make the feigner tired of them, and stimulate him to do something new. This requires a long-continued period of observation, and might enable the malingerer to perfect himself in his role. A combination of the two methods might, however, succeed. Montegya reported a case of simulation, as mentioned in Regis' textbook, in which the experts said in the presence of the feigner so as to be heard, that they had doubts of the genuineness of the insanity of the accused for several reasons: First, because he scattered the food given him; secondly, because he did not sigh; and thirdly, because he did not look fixedly on any object. The ruse succeeded; the simulator modified his comedy in such a manner as to instantly relieve the doubt of the physicians.

In Europe, criminals who are suspected of feigning insanity are usually sent temporarily to an asylum where they are either kept in isolated rooms or allowed to associate with the inmates. In the latter case, they might be caught copying the behavior and mental activity of the insane, which would rather speak for simulation, though not necessarily so, it being remembered that cases of induced hallucinations are sometimes met with among the insane. Some writers have recommended to keep the room they occupy lighted up at night.

These various detective means are, however, rarely required, and some are not applicable in this country, where existing circumstances confine the means of observation to such as are at hand in a county jail, and limit the time usually to opportunities obtainable during the few days that the trial is going on. In Europe the opportunities for investigation are far better, inasmuch as a temporary detention for observation in an insane asylum is deemed absolutely essential to a diagnosis. The personal examination in jail should be preceded by inquiry into the family and personal history, and this information obtainable is sometimes meager, sometimes that given on the witness stand by biased relatives or other witnesses, and sometimes information contained in depositions taken at long distances from the seat of trial, and, although given under oath, are obtained at the instigation of the defendant's counsel, and are apt to be unreliable. The inquiry into the family and personal history should be followed by an inquiry into the history of the crime with which the defendant is charged. If the expert is present throughout the trial, he has an opportunity not only to hear all the evidence of the defense and prosecution, but to judge as to the trustworthiness of the different witnesses. If his information is confined to what is contained in a so-called hypothetical case submitted to him by the defense or prosecution, or both, each one having its own question,—and this is not infrequently the only part of the trial which the expert is asked to attend,—he faces evidence which, after having been sifted through a more or less skilfully constructed net of legal technicalities, comes out in a more or less distorted form. He is between Scylla and Charybdis compelled to fight a wordy duel, in the midst of which he is subject to the danger of falling into traps studiously laid by one side or the other, the attorneys seldom failing to confront the expert with writings of authors of great and small repute, making excerpts of opinions of general bearing apply to the special case. No wonder that medical men disagree. Their duties would be less unpleasant, and a fair and impartial opinion would be more liable to be secured, if the experts were selected by the court, instead of by the opposing counsel.

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## THE DIAGNOSIS AND TREATMENT OF APPENDICITIS.

By J. C. Stinson, M. D.

Richardson says, "Appendicitis is the most important acute abdominal disease of the present time, and, excluding certain zymotic diseases, it is the cause of more deaths than any other acute abdominal lesion." In the female, excepting certain inflammatory diseases of the sexual organs, it is the most common cause of general peritonitis, and in males under forty it is almost invariably the cause of peritonitis.

Previous to 1886, the symptoms of disease in the right iliac fossa were supposed to be due, in the majority of cases, to an affection of the cecum. The first authentic record of a disease of the appendix was that of Mestivien, who, in 1759, recorded a case of perforating appendicitis with peritonitis. In 1833 Dupuytren showed the connection between abscess of the right iliac fossa and disease of the cecum, and it is largely due to his teaching that the cecum was recognized as the primary cause of abscess in this region. Albers, of Bonn, in 1838 gave the name typhlitis to the disease. He described four varieties of the affection. In those cases where pus was present, and associated with a perforated appendix, he believed that the perforation was the result of the pus formation. In 1882 Talmon wrote a paper on the part played by the appendix in disease of the iliac region. In 1886 Reginald Fitz, of Boston, published, in the "American Journal of the Medical Sciences," a paper on "Perforative Inflammation of the Vermiform Appendix." He reported 209 cases of typhlitis and perityphlitis, and 257 cases of perforative appendicitis. He showed that the symptoms are the same in the two classes of cases. He studied these cases with great care, and proved that the peritonitis resulting from perforation may be general or localized, forming a circumscribed pus collection. In 1888 Fitz published a second paper, in which he advanced the theory that the diseases described as typhlitis, perityphlitis, appendicular peritonitis, and perityphlitic abscess, are all varieties of one and the same disease, namely, appendicitis. Since 1888 the vermiform appendix has been regarded as the primary cause of disease in the right iliac fossa. Cases of inflammation of the cecum may occur, but they are rare, and are generally due to appendicular disease. According to McMurtry, the cecum is involved only once in two hundred times, as compared with the appendix. At the present time the most debated questions are those concerning the diagnosis and treatment.

Before taking up the diagnosis of the disease it will be necessary to say a few words about the anatomy of the appendix. The vermiform appendix varies in length from two to nine and one-half inches. It is partially or entirely covered by the peritoneum, the meso-appendix, and is attached by its base to the head of the cecum. The tip of the appendix is normally free, and more or less movable, depending on the length and extent of attachment of the meso-appendix. It is on account of the extreme mobility of the appendix that the point of greatest tenderness varies so much in its location. The appendix may occupy any one of the points corresponding to the points of the compass radiating from McBurney's point as a center, and the tenderness will vary in position accordingly. In appendicitis, the inflammation may only involve the mucous membrane, catarrhal appendicitis. It may extend deeper, and affect the wall of the appendix, causing ulceration, and endangering perforation-parietal. It may perforate and cause a localized peritonitis with abscess formation, or localized peritonitis with extensive adhesions may occur, without perforation, by direct extension of the inflammation through the wall of the appendix. In case of perforation, if there are no adhesions, walling in the septic material which escapes from the appendix, a general purulent peritonitis results, which usually terminates fatally. A typical attack of catarrhal appendicitis resembles an ordinary bilious attack at the outset. The patient is suddenly taken with severe abdominal pain, colicky in character, diffuse but worse in the epigastric or umbilical region. At the same time there is nausea and vomiting. Constipation is usually present, but sometimes there is diarrhea at first. The temperature ranges from 99° to 103°. Pulse may be normal, but is generally accelerated. The tongue is coated, and abdomen somewhat distended. The urine is usually diminished in amount, and often contains albumen. According to Richardson, leucocytosis is invariably seen in cases of perforative appendicitis. The attack thus far resembles an attack of acute indigestion, but in a short time the pain becomes localized in the region of the appendix, and this region is very tender on palpation. There is also rigidity of the abdominal walls on the right side. The location of this secondary pain and tenderness varies with the anatomical position of the appendix. In the majority of cases the localized pain and the tenderness will be at McBurney's point, one and one-half to two inches from the anterior-superior spine of the ilium, on a line drawn from the spine to the navel. Should the pain and tenderness be high up over the ascending colon, or just below the liver, the appendix will be found turned up over the ascending colon. If the tenderness and pain are located in the loin, the appendix is post-cecal. When the appendix hangs straight downward, the tenderness will be just above Poupart's ligament. Should the appendix be across the abdomen to the left, pain and tenderness will be found on the left side. If the appendix hangs over the brim of the pelvis, the pain and tenderness may be found on the left side, sometimes to the left of the left rectus muscle. It is usually elicited by rectal palpation.

Since the location of the pain and tenderness varies so much, it is a good rule to examine first at McBurney's point, and, failing to detect tenderness there, examine at each of the other points to determine whether the appendix is affected or not. The three important symptoms are pain, rigidity, and localized tenderness, which, taken in connection with the other symptoms, enable us to arrive at a diagnosis of the case. Appendicitis may be mistaken for biliary colic, hepatic abscess, rupture of the gall-bladder, floating kidney, renal colic, pyonephrosis, perinephritic abscess, lumbar abscess, pneumonia, and pleurisy, intestinal obstruction, dysentery, and colitis, tubercular peritonitis, typhoid fever, splenic abscess, cancer of the cecum, pyosalpynx, painful menstruation, perforation of stomach or bowels, abscess of abdominal wall, psoas abscess, and suppurating hip-joint disease. In short, it may resemble nearly every inflammatory or other painful disease of the abdominal organs, abdominal wall, or the parts in the vicinity of the abdomen, and it is only by careful study of all the symptoms and physical signs, and the exclusion of other troubles, that we are able to make a correct diagnosis. Deaver mentions a case in which the diagnosis of renal colic had been made, and in which the ureter was supposed to have been ruptured by the passage of a calculus. At the autopsy a gangrenous and perforated appendix, with general peritonitis, was found. It is most frequently confounded with intestinal obstruction or typhoid fever. Richardson says, "Not frequently I have found a gangrenous appendix in cases where a diagnosis of internal strangulation had been made by the most experienced men." He mentions a case where the pain and local symptoms were all situated between the umbilicus and spleen. At the operation nothing was found in this region but purple and distended coils of intestine. Death occurred in a few hours. At the autopsy, diagonally opposite to the site of the pain and tenderness, the appendix was found perforated and gangrenous, the cause of the whole trouble. In all cases of general peritoneal infection, in which the lesion is obscure, the possibility of appendicitis must be borne in mind." In 188 cases of supposed appendicitis operated on by Richardson, 181 proved to be appendicitis, 4 were cases of acute intestinal obstruction, 2 were malignant disease, and 1 was a case of general peritonitis from gonorrheal infection. In 1894 an operation was performed on a classmate of mine, by Dr. Clinton Cushing, for supposed appendicitis, and after the abdomen was opened, it was found that the appendix was perfectly healthy, and the cause of the trouble was typhoid fever. When men of large experience are deceived in these cases, it is not surprising that general practitioners frequently find it very difficult to decide on the cause of the trouble.

Having made our diagnosis, it is necessary for us to have some idea of the pathological conditions present, and the probable outcome of the case, before outlining our plan of treatment. If drainage is good, no foreign body present, and the infection not virulent, the inflammation will probably confine itself to the mucous membrane, or only slightly involve the wall of the appendix. In about thirty-six to forty-eight hours there will be an amelioration of the symptoms, and in five or six days the patient will feel practically well, excepting a slight soreness over the site of the appendix. These mild cases get well without an operation, but in about

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fifty per cent of the cases, there is a return of the trouble sooner or later. Recurrence usually takes place within a few months, but in nearly all cases, within two years of the preceding attack. In cases where the infection was very virulent, or a foreign body was present, the inflammation is liable to extend. The wall of the appendix ulcerates, and frequently perforates. In some cases the whole of the appendix becomes gangrenous. Authorities differ in regard to the time of perforation. Richardson believes that in very severe cases perforation of the appendix takes place at the onset of the symptoms. He mentions one case where he operated within six hours from the first symptoms of pain, and found the whole peritoneal cavity invaded by a thin fluid of fecal odor. The patient died within thirty-six hours, of general peritonitis. Other authorities believe that in most cases perforation does not take place for several days from the onset. If there are sufficient adhesions present, the extravasated material is walled in, and a localized peritonitis with abscess results. A swelling may then be detected over the abscess, but the most reliable sign of pus is excessive tenderness. The temperature is not a good sign as to pus formation, and a chill is rare. If there are only few adhesions, the septic material passes to all parts of the peritoneal cavity, causing general suppurative peritonitis. The tenderness becomes diffused over the whole abdomen; tympanitis is marked. In several cases peristalsis is inhibited. This may be detected by auscultating the abdomen with a stethoscope. Vomiting becomes persistent, and the pulse grows rapid and weak. If the abdomen is greatly distended, peristalsis is absent, and there is persistent vomiting; death almost invariably follows. In chronic appendicitis the organ is found to be enlarged and tender, and from time to time there are acute exacerbations of the disease, so-called recurrent or relapsing appendicitis, any one of which may end in perforation, with local or general peritonitis.

There is a great difference of opinion as to the proper treatment of appendicitis. Many of the best surgeons who see only the worst cases say that the disease is a surgical one, and advocate early operation. Deaver says: "In every case, unless constitutionally contraindicated, I believe that the appendix should be removed as soon as the diagnosis has been established. I recognize the fact that a very small percentage of all cases will temporarily recover without the use of the knife, but no one can tell which case will terminate favorably, or which will go on to perforation and gangrene, with the train of fatal complications that is liable to follow." Wyeth states that in his entire experience he has yet to see a death which could not properly be ascribed to delay in timely and skilful surgical interference. He believes that every case should be treated by a surgeon with a medical attendant from the beginning. On the other hand, a great number of the best physicians believe that it should be treated medically. Da Costa has seen a large number of cases of catarrhal appendicitis cured by medical treatment. I think appendicitis is both a medical and surgical disease. In the milder catarrhal cases recovery occurs through medical means only, and in these cases an operation is unnecessary. If the case is very severe from the start, or there is no marked improvement during the first two days, the danger of perforation and general peritonitis is so great that surgical treatment should be adopted, and the appendix removed. The operation, however, should be performed by an experienced surgeon. Richardson advises operation in all cases where there is not distinct improvement, in thirty-six to forty-eight hours from the onset of the attack. McBurney says, "Palliative treatment should be applied to all cases of acute appendicitis, excepting when they are characterized by such violent symptoms at the beginning that operation is immediately called for." In those cases not subjected to immediate operation, the treatment should be absolute rest in bed, together with either hot or cold applications to the region of the appendix. Some prefer ice, others hot compresses. Mustard, iodin, blisters, etc., should not be used, as they put the skin in an unfavorable condition for operation if that should be necessary later. If there is much vomiting, avoid food altogether, and control the vomiting with very hot water, pellets of ice, or sedatives given by mouth or rectum. After the vomiting ceases, the diet should be the most easily-digested liquid food, such as broths, milk, etc. Antipyretics should not be used at all. It is better to avoid the use of morphin, as it masks the symptom of pain, and makes us believe the patient is improving, when in reality he is worse. In cases where the pain is very severe, one-eighth grain may be given hypodermically to deaden the pain somewhat, but not enough to relieve it completely. Deaver opposes the use of opium. McBurney says: "Before the diagnosis has been made, no morphin should be given, and never afterwards. It is very undesirable that an anodyne should be given to mask the symptoms, and so have the attendant to underestimate the severity of the attack." There is a difference of opinion as to the use of laxatives. Deaver advocates the administration of laxatives in the beginning of every acute attack of appendicitis. He prefers castor-oil, but if that can not be taken, he gives calomel or salines. In the later stages, when adhesions have been formed, he does not advise their use, as there is danger of causing perforation, if it has not already taken place, or of rupturing the adhesions, and of producing general peritonitis. McBurney says: "Cathartics are not indicated at the beginning of an attack of appendicitis; complete rest of the intestine, as of the whole individual, is called for; and cathartics only tend to increase vomiting and general unrest of the patient. If there is not distinct improvement in thirty-six to forty-eight hours, it is safest to operate, and remove the appendix, because every hour increases the danger of perforation, which not only greatly increases the gravity of the case, but also makes the operation more difficult. The patient should be prepared in the same manner as for any abdominal operation. The Deaver incision through the skin and down to the peritoneum should be about three inches long, and should be made a little to the inner side of the right semilunar line, commencing one inch above a line drawn from the spine of the ilium to the navel. The incision in the peritoneum should be at first only one inch long, but it may be enlarged if necessary. The McBurney incision is more difficult of execution, but is less liable to be followed by a ventral hernia. In this incision the muscles are not cut, but the fibers are merely separated, so that after the operation, muscular contraction tends to bring the edges of the wound closer together, instead of drawing them apart. The skin incision is slightly curved, with the

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convexity outward. It is about two inches long, and midway between the right semilunar line and spine of ilium. The aponeurosis of the external oblique is divided, and the muscular fibers separated by retractors; beneath will be seen the fibers of the internal oblique and transversalis crossing the opening. These fibers should also be separated by retractors, and a small opening made in the peritoneum. When the peritoneal cavity is opened, the head of the cecum and appendix should be found and brought out through the wound. The meso-appendix should be ligated, and cut away from its attachments to the appendix. A circular incision should now be made through the serous coat of the appendix, one-fourth of an inch from the cecum. This cuff of peritoneum should be turned back toward the cecum, when the appendix should be ligated with silk and cut off. The mucous membrane of the stumps should be curetted and washed with bichlorid solution. The cuff of peritoneum is then stitched with silk over the stump. The stump covered with peritoneum is invaginated into the wall of the cecum by continuous sutures. By this method of treating the stump, fecal extravasation is impossible. In some cases the appendix is in such a bad condition that all the coats have to be ligated together. Morse, of San Francisco, ligated the appendix, and cauterized the stump with the thermo cautery. After the stump is treated it is dropped back into the peritoneal cavity, and the abdominal wound is closed by three rows of sutures, one for the peritoneum, one for the muscles and fascia, and one for the skin. The inner ones should be catgut, but the outer may be of silk or gut. In those cases where perforation has already taken place, with abscess formation or general peritonitis, operation should be performed immediately. The abdomen should be opened in the manner described. If there is a localized pus collection, it will usually be found in front of or behind the cecum, or in the pelvic cavity. Pieces of gauze should be packed around the abscess in such a manner as to protect the general peritoneal cavity. The abscess should then be evacuated, and either swabbed out with gauze or a glass drainage tube. If the pus is in the pelvis, the glass tube is better than gauze. Deaver says, "After attending to the abscess, the appendix should be removed in all cases." Richardson advises the removal of the appendix, if it can be done without danger of rupturing the adhesions, and so causing a further extension of the trouble; but if the appendix lies buried in the wall of the abscess, it is better to leave it. In cases where general peritonitis is present, the whole peritoneal cavity should be flushed out with hot saline solution, and a glass drainage tube introduced. The appendix should be removed, and the abdominal wound closed in the manner described, except at the point of exit of the drain; here the sutures should be introduced but not tied. After the drainage tube or gauze is removed, these sutures may be tied. The dressing consists of a layer of iodoform gauze, then sterilized gauze and absorbent cotton, secured by a bandage. In simple cases the stitches may be removed in from five to ten days. The after-treatment is the same as after other abdominal operations. In relapsing appendicitis, if the patient has had two or more attacks, the organ had better be removed in the interval between the attacks, because with each recurrence the danger of perforation is greater, and there are a greater number of adhesions present, which makes the removal much more difficult.

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## GOUT, ITS PATHOLOGY AND PROPHYLACTIC THERAPEUTICS.

By J. J. Clarke, M. D.

The number of diseases and of symptoms which have been referred to this condition are almost endless, and although many of these must be dealt with as manifestation of gout, it will be convenient in the first place to consider the disease in two main forms, the acute and the chronic, reserving for subsequent consideration those symptoms which appear beyond doubt to depend upon the same cause, even though their origin is not at first sight so manifest.

The various views that have been taken of the pathology of gout need scarcely detain us, although it may be of service to state briefly that all observers appear to be agreed upon the importance of uric acid and its compounds in connection with the causation of gout. The researches of Roberts and others have shown that uric acid forms three classes of salts: First, a class of neutral urates, in which a metal takes the place of all displaceable hydrogen; these neutral urates do not exist in the living organism, although they may be obtained by chemical processes. Second, a class of biurates, in which a metal takes the place of part of the displaceable hydrogen, thus forming acid salts comparable to sodium bicarbonates, and, like this salt, although chemically it may be termed an acid salt, in reality the biurate gives no acid reaction to test papers. Third, the quadriurates, whose composition is best explained by stating that a metal takes the place of one-fourth of the displaceable hydrogen in two uric acid molecules. The important biurates and quadriurates which occur in the body are the sodium salts, and it appears to be now generally recognized that of those two the quadriurates saturate the blood of gouty subjects, and that this compound is an unstable body which ultimately may unite with some of the sodium carbonate of the blood, and thus form sodium biurate. The quadriurate is comparatively soluble, while the biurate is comparatively insoluble; however, when the biurate has been formed in any quantity, it is readily deposited in crystals in various structures, and this deposition of sodium biurate appears to be the immediate exciting cause of an acute attack of gout. The deposition ordinarily occurs within the synovial membranes, and leads first to the accumulation of crystals upon and within the articular cartilages, and, secondly, to a form of inflammation to which many of the symptoms are directly referable. Since the treatment of gout may to some extent be influenced by the views held of its pathology, it may be interesting here to give the conclusions which have been recently arrived at by Dr. Luff as to the pathology of gout:[1] 1. Uric acid is not normally present in the blood of man and other mammals, nor in the blood of birds. 2. Uric acid is normally produced only in the kidneys. 3. Uric acid is normally formed from urea, probably by conjunction of that substance with glycocin in the kidneys. 4. Uric acid is present in the blood in gout as the soluble sodium quadriurate. In its soluble form it is not a toxic agent. It deposits from the blood as sodium biurate, which acts passively and

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[1] "Gout, Its Pathology and Treatment," pp. 103, 104.

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physically as a foreign body in the tissues or organs in which it is deposited. 5. The presence of uric acid in the blood in gout is due to its deficient excretion by the kidneys, and to the subsequent absorption of the non-excreted portion into the blood from these organs. 6. Gout is probably always preceded by some affection of the kidneys, functional or organic, which interferes with the proper excretion of uric acid. The probable seat of the kidney affection giving rise to gout is in the epithelium of the convoluted tubes. 7. In certain blood diseases and disorders accompanied by leucocytosis, uric acid is formed within the system from nuclein. In such circumstances it passes at once into the blood, and is rapidly eliminated by the kidneys.

The symptoms which provoke an attack of acute gout are sometimes ill defined. Occasionally there may be slight pain in one or more of the joints, but more commonly, in spite of some previous tendency to dyspepsia and mental depression, the individual feels better immediately before the immediate onset of the attack. Frequently this onset occurs during the night, the patient waking with severe pain, which, in the first attack, usually commences in the large toe. This pain rapidly increases, and is always intensified by the slightest movement. Sometimes it is followed by a moderate rise of temperature, which, however, may fall with diminution of pain and with slight perspiration. The part affected is then found to be somewhat swollen, the skin shining and tense, and the veins in the neighborhood distended. After this acute onset the pain may return on successive nights for a week, or even a fortnight. As the swelling subsides, the pain diminishes, but is replaced by much irritation of the skin, which may pit on pressure, and will subsequently desquamate. Although an acute attack of gout commonly commences in the large or great toe, the site affected may be determined by any previous slight injury or strain; sometimes the knee, the elbow, or the wrist may take precedence of the great toe.

The treatment of subacute and chronic gout is almost as important as the treatment of an acute attack, and whenever the gouty diathesis has been declared, measures must be taken to ward off subsequent attacks, and to relieve the discomforts incidental to gout, when it occurs in the chronic or subacute form. The chief indications, so far as prophylactic treatment is concerned, lie in the prevention of the formation of uric acid and of its conversion into biurates. These processes can, to a large extent, be hindered by measures which favor the due elimination of nitrogenous waste, while at the same time the dieting and the habits will require suitable modification. Subsequently to an acute attack, colchicum may still be used in small doses, so long as there is no pain or enlargement about the joints. Frequently, however, as the severity passes off, complaint is made of the depressant action of colchicum, and it then becomes necessary to administer either potassium iodid guaiacum or diathesin. Reference has already been made by many clinicians, and more recently by Mordhorst (see Acute Rheumatism), to the fact that gout and rheumatism are intimately connected, gout depending upon the deposition of crystals of sodium biurate, while rheumatism is due to the formation of granular urates. Mordhorst maintains that sodium carbonate and bicarbonate, although they do not directly favor the solution of crystalline biurates, indirectly prevent the deposition, by encouraging the oxidation of uric acid as it is formed, and he recommends the free use of the bicarbonate in the form of mineral waters containing carbonic acid and common salt, and as free as possible from lime. It may be stated that Mordhorst believes that part of the uric acid formed is at once excreted by the kidneys, part is oxidized, and thus destroyed, and part, again, may be held back and stored in the tissues. The chief feature in the dietary of those with gouty tendencies is the avoidance of excess of any kind. The diet should be light and easily digested, and it should contain only a small proportion of proteid matter, whether this be animal or vegetable. Owing to the relatively large amount of proteid material it contains, meat is to be taken sparingly, and it is best reserved for a single meal, preferably luncheon rather than dinner. Green vegetables are of distinct advantage in the treatment of gout, and of these the most beneficial are spinach and Brussels sprouts. The former may be obtained at almost any time of the year, since the carefully-dried spinach does not appear to lose any of its advantages if properly cooked. While encouraging moderation, it is not advisable to reduce the amount of food to such an extent that the patient always has a sense of hunger and craving. By judicious management, and by frequent changes, toleration of the privations can be established. The chief articles which have to be avoided are alcoholic drinks, more particularly those which contain a relatively large proportion of sugar, such as sweet wines, together with the various forms of ales and stout. Metastatic gout is a form which occasionally follows the sudden arrest of an acute attack of gout, and in this affection the symptoms may be either gastro-intestinal, or cardiac, or cerebral. The gastro-intestinal type is marked by vomiting, severe abdominal pain, and palpitation; the cardiac, by pain referred to the region of the heart, with palpitation and tendency to fainting; the cerebral by irregular cerebral symptoms, of which the most important are those connected with apoplexy or with inflammation of the meninges. Should any of these indications follow the sudden arrest of an acute attack, it is, as a rule, desirable to attempt to reproduce the articular affection by hot applications over the joint which was originally attacked, the action being sometimes favored by hot mustard and water. The various forms of metastatic gout require suitable treatment. Thus the gastro-intestinal calls for the administration of gastric sedatives, such as hydrocyanic acid and salts of bismuth. The cardiac form requires the administration of digitalis or strophanthus, while for the relief of angina, amyl nitrite may be given as an inhalation, or the solution of trinitrin may be employed internally. For the cerebral symptoms the treatment must depend upon their nature, with indications of hemiplegia, or of inflammatory action in the meninges, moderate venesection may be performed, or leeches may be applied over the mastoid region or the temples; and in the cerebral affection it is also frequently desirable to insure the free evacuation of the bowel, either by croton oil or by calomel, if the patient is sufficiently conscious for the latter to be taken. It would be superfluous to describe the irregular symptoms referable to gout, as the course and the various forms of uric-acid storms are only too well known by the average physician. The property of this paper is, generally speaking, in the line of therapeutics, or the prophylactic treatment of gout, and in this respect I wish to advocate a line of treatment which has been successful in my hands in a large number of instances. Without in the least indulging in the luxury of conjecture, I shall endeavor to outline a measure of intuition, because intuition is the refinement of practical knowledge, and I regret to say that practical knowledge is apparently a very guarded quantity at present in the medical world. In gout, if it be true that we have a deposit of the insoluble or sparingly soluble biurates in the tissues, or the sodium biurates, it follows that the treatment which aims at a solution of these substances is the ideal form of treatment, and that any other method which we may employ will yield but passive results. Take, for example, colchicum lithia, the baths, and finally the latest fad or "bake oven," which always relieves in every instance, among its advocates. During the past year and a half (eighteen months) I have employed hexamethylentetramin, which Dr. Lederer has named aminoform, but with only indifferent success for some weeks, or until I was told of the trick for its more successful employment. If we take uric acid by itself, and place this substance in a test-tube with 100 cc. of water and 48 of aminoform, heating to 98½ degrees Fahrenheit, or a trifle over this, the uric acid is very promptly dissolved, but remains in the test-tube, just as it does in the tissues; per se, the only method of clearing both is by water. Aminoform, therefore, will make a solution of neutral urates, biurates, and quadriurates, but without plenty of water this accomplishes nothing, whilst with water the sum total of uric acid is promptly got rid of through the natural secretions; the point is patent. My plan is as follows: Prescribe of aminoform fifteen 7½-grain powders, and direct the patient to procure a perfectly sterile champagne bottle and new cork. The bottle is to be filled every morning with water that has been boiled and allowed to cool; then three of the powders are to be mixed with the full quart of water, the cork tightly secured in the bottle, and the mixture shaken for five minutes. The chemical dissolves quite readily. Of this full quart of water then we direct the patient to consume during the waking hours, or between breakfast and bedtime, using as much more water as he desires, but never less than the quart, which has been made up fresh each morning with the aminoform powders. In my hands this method has accomplished excellent results, and I can cite upwards of forty cases of the uric-acid diathesis, markedly improved, and entirely relieved in many instances. As for the "rheumatic" type, so called, the above formula will generally act beneficially; but I have noticed particularly that these cases of rheumatism that are relieved by aminoform are in the overfed society ladies, who do little beyond attend social functions, and take little exercise in the open air. As for acute attacks of gouty arthritis, when there is a great amount of discomfort, diathesin controls the inflammatory process in the joint or synovial sacks with remarkable rapidity, and saves us the depression of colchicum or morphin and the danger of metastatic attacks. So far as my knowledge goes, aminoform water is the method of choice for the administration of this drug, because perfect solution in proper dose and quantity of menstrum is obtained.

It may be concluded: (1) That uric acid, as a causative factor in gout, should not be overlooked; (2) that a vegetable diet is productive of good results; (3) that aminoform, administered in the manner described in this paper, is the remedy of choice for the elimination of uric acid, not only in this, but in other pathologic conditions dependent upon the same cause.

## BONE-FILLING WITH AMALGAM.

### REPORT OF A CASE.

By J. Henry Barbat, M. D.

*Read before the California Academy of Medicine, October 22, 1901.*

The following case is of interest on account of the peculiar method of final cure. J. de F. came to me on September 28, 1899, suffering intense pain in the lower part of the tibia, and gave the following history: Trouble began in the year 1886, while residing in the Azores, with pain in the left ankle, which was treated by incisions. This was followed by the formation of ulcers, which were allowed to heal as best they could. From 1893 to 1898 he suffered severe pain, at night only, in the same leg and ankle, but the skin was not broken. The leg would swell up during the day, but did not begin to pain until he had been in bed about an hour. On March 4, 1898, an ulcer formed, which was incised, and disclosed a fistula leading into the tibia near the ankle. This closed on May 7, 1898, and the patient remained well until Nov. 18, 1898, when another ulcer formed. A thorough operation was done, and the diseased bone removed, necessitating an incision on each side of the ankle. The wounds did not heal, and, becoming discouraged, he sought other medical advice. He finally drifted into my hands, and I found a sinus opening on the inner side of the tibia close to the ankle-joint. The cavity in the bone did not appear to be large, and the probe touched what seemed to be solid bone on all sides. The leg was swollen for three inches above the opening, and was very tender to pressure. He stated that he suffered intense pain every few days, which lasted for from two to four hours. I suggested filling the bone cavity with amalgam, as the only new treatment, as he had had about everything else done without benefit. He acquiesced, and I operated on Oct. 12, 1899. I was very much surprised to find that what I took for solid bone was only a hard mass of inflammatory material resembling cartilage, which, when removed, by means of a sharp curette, left a cavity measuring nearly 5 cm. long and over 2 cm. wide and fully 3 cm. deep. After the cavity was thoroughly cleaned out and dried, copper amalgam was pressed against the bottom and sides, until the whole surface was covered, leaving a hole, which was partly filled with dental cement, the top being covered with more amalgam. The cement is used simply to lessen the weight of the filling, and is completely covered with amalgam. The skin was sewed over the filling, and dressings applied. The wound healed, all except the upper angle, which discharged a small quantity of fluid resembling sero-pus, in which no bacteria could be found. The filling of the bone cavity caused a complete cessation of the pain, and the patient was able to walk around without crutches for the first time in several months. The small opening refused to close, and, after a period of ten months, a probe could be passed between the amalgam and the upper end of the bone cavity, showing that some of the bone had broken down. I advised attempting to clean out the small cavity and placing more filling. Operated Aug. 1, 1900, and found that the opening communicated with the medullary cavity of the tibia, and therefore it would be impracticable to attempt filling, as there was undoubtedly some osteomyelitis present. As it was impossible to fill, it was thought advisable to remove the amalgam, which was in place, as the infectious material would certainly find its way between the bone and the amalgam. This was done with a chisel, and the bone found in perfect condition, except at the upper end, which was curetted, and the cavity filled with formalin gelatin. This remained in place until August 30, when I removed the last portion, leaving a clean, healthy-looking, granulating surface. The hole was frightfully large, and I was at a loss to know how it would terminate, when it occurred to me that possibly I might graft skin on the granulating surface, and in that way terminate the case. I dressed the wound with protonuclein every other day, and found that the skin was beginning to grow downwards into the cavity, and so postponed skin grafting. There was practically no secretion from the wound, and the dressings were made at longer intervals, until, on Jan. 26, 1901, the cavity was entirely covered with new skin, and the patient discharged cured.

# HOSPITAL REPORTS.

**Gynecological Clinic, Cooper Medical College, Geo. B Somers, M. D., in Charge.**

*Reported by Minora E. Kibbe, M. D.*

## TUBAL ABORTION.

Mrs. E., aged 35, a native of Norway, married at 17; only child born at 19; has been remarkably strong and well. Married present husband seven years ago. For over a year nausea and vomiting have occurred every week or two. Menses have been regular until commencement of present attack. Came to clinic March 13, 1901. Present illness began six or seven weeks ago, with a severe attack of vomiting. Felt as though her belly would burst, and very soon after noticed that she was flooding. Does not know whether it was time for her period to appear. After flowing for two weeks she applied to a druggist, who gave her medicines which made her constipated, but did not lessen the flow. She appealed to him again and he gave her pills which acted very soon, bringing away a great amount of blood per rectum. The bleeding per rectum continued two weeks. Her abdomen swelled up and pained; when gas passed, she felt better. Enemas relieved the pain. Examination was made with some difficulty owing to the thickness of the abdominal wall. The uterus apeared slightly enlarged, cervix was somewhat patulous and contained a small polypus. Blood was oozing from the cervix. Nothing could be made out in the ovarian region or in Douglas' pouch. The polypus and clot were sent to the pathological laboratory, and Prof. Ophuls returned the following report: "The polypus consists of fibrous tissue which in spots is quite rich in cells. The surface is covered with high cylindrical epithelium. In the fibrous tissue there are irregular glandular spaces that are lined with cylindrical epithelium. The clots show nothing abnormal. She was curetted at her home March 16. The matter curetted away showed glandular endometritis. While under anesthesia a mass could easily be made out resting in Douglas' pouch. The patient did well for four months, when she was suddenly attacked with pain which caused her to roll upon the floor. Her bowels soon moved and she felt better. Later the pains increased and she lost nearly a chamberful of blood. Examination now showed the whole pelvic cavity very tender; uterus fixed though not much enlarged, and Douglas' pouch filled with a boggy mass. She was advised to enter the hospital at once. An abdominal section revealed the right tube ruptured and filled with clots from an extrauterine pregnancy. The history of the case seems to indicate that the original trouble began with an acute salpingitis, causing the tubes to prolapse into Douglas' pouch and press on the rectum. This condition accounts for the symptoms of obstruction in the rectum shown by bloating, gas pains, and bleeding from the rectal mucous membrane. It is probable that the impregnation took place subsequent to the curettement.

### MUCH OPERATED.

A patient, aged 25, who recently came to the clinic with pain in the right ovarian region, gave a history of the following operations since 1895. After her first child was born she had a repair of cervix and a perineum. With her second child she had milk-leg, and her limb was lanced three times. Later she had an operation on the uterus and her leg was operated on twice. Next year she had a tumor on the right side and a growth under the right arm removed. An operation on the throat followed an attack of tonsillitis. She has had two operations on her eyes, one for strabismus and one for growth on the lid. The last time she entered a hospital she says there were five operations, including laparotomy, performed on the generative organs, nature unknown. She has been in a hospital for the insane twice during this period.

### PREMATURE MENOPAUSE.

Clinic Case 2979. Mrs. F., aged 31, Swiss, family history unknown; menstruated at 12; menses have been irregular and scanty in amount, and accompanied by pain; was married for one year; secured a divorce because of dyspareunia. Six months ago periods ceased; she complains of neuralgic pains on left side and alternate constipation and diarrhea. Physical examination of the vagina presents a ring-like contraction about two and one-half inches from introitus. Above this the tissues expand slightly, and the cervix appears as a small, soft projection about one-third of an inch in diameter. The body of the uterus is very small; ovaries and tubes are present. Vaginal walls show excoriated spots, typical of senile vaginitis. No gonococci were found in the vaginal or cervical secretions. The spots in the vagina were treated with a two per cent nitrate of silver solution. She was given a tonic and pills for constipation. The interesting feature of this case is the condition of senile atrophy of the pelvic organs and the menopause occurring at the age of 31.

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## IRRIGATION AND FORESTRY FROM A SANITARY STANDPOINT.

The recent message of President Roosevelt contains many suggestions that demand the earnest attention of those dwelling in our western country. None among these will appeal to the physician so strongly as his reference to forestry and irrigation. Much has been written during the last few years in behalf of our forests from a commercial and economic point of view, but scant reference seems to have been made to the direct bearing of such measures on health. The beneficial effects of the preservation and extension of forests are so evident, and are so intimately connected with the problem of irrigation, that it is unnecessary here to more than recall the stimulus of sunshine and shade, recreation, camp life, ozone-bearing breezes, and the innumerable blessings conferred alike upon the weak and the strong, by this gift-laden provision of nature. It is unquestionably the province of the medical profession, which ever makes the health of the people its first consideration, to aid in every way the solution of such important problems. One depends intrinsically on the other; deprivation of either means disease, death, and desolation.

The redemption of our arid lands by irrigation, so uninhabitable and destructive to life of all kinds, concerns us only in its bearing on the prevention and cure of disease. The vast tracts proposed for reclamation, once partly irrigated by a prehistoric race, lie for the greater part in the warm, sub-tropical areas of the west and the great southwest. Here the mildness of the climate, the amount of sunshine, would be alone sufficient to commend them, if the elevated plateaus did not enhance their value in this respect.

The results of irrigation, from a sanitary point of view, are not well known, and are therefore less appreciated by the public. The direct effect is very beneficial to health. The impression that irrigated districts were productive of disease a year or more ago prompted an inquiry into the subject, whereby the conclusion was reached that the contrary was the fact. All available literature, all personal and written testimony, was distinctly unanimous in declaring that irrigation brought health and prosperity. All the medical evidence showed that there was less malaria, typhoid fever, and diarrheal diseases, etc.; that the sanitary conditions in general were vastly improved, and that the death rate was consequently lowered. This was strikingly true of all districts, of so healthy a country as that surrounding Phoenix, Arizona, and of so unhealthy a territory as the San Joaquin Valley. A little reflection will readily convince one that no water, stagnant pools, the use of wells or cisterns, are active factors in spreading disease; while the prevention of vegetable decomposition, the replacing of these conditions with green fields and flowing waters, which as a rule are pure and clean, will eradicate many sources of contamination. Another phase intrinsically connected with the subject is the varying altitude of these lands, so essential many times in the treatment of diseases of the respiratory passages, which, aided by open-air life, and above all by a certain and stimulating means of employment, adds an incentive of greatest effect. These very conditions have made Colorado and southern California the greatest health resorts in the world, and have given life and health to thousands. The conclusions of the eminent physicians who made the Congress of Tuberculosis, recently held in London, famous, were that, in the present state of knowledge, sunshine and outdoor life are our most effective agents in the treatment of this disease.

Laws exist in many states to prevent the consumptive from becoming a menace to his fellow-men, and various regulations have been proposed to make these laws effective; but so far the enforcement has been uncertain in results; therefore it seems pertinent that in the reclamation of these lands lies one means of preventing, if only to a limited degree, the further destruction of our people. To the rich invalid of whatever character this means an amelioration, a checking of his disease, if not a restoration to health, and possibly greater wealth; to the poor, employment, the chance to regain health, and a maintenance under climatic conditions hitherto unavailable. At present the amount of land that is productive in these districts is small and the means of securing a livelihood uncertain, hence the solution of this problem would confer a blessing on humanity. The objection has been often urged that such a project means the infection of territories hitherto free from disease, which objection no doubt can to a certain extent be sustained; but it can be equally well maintained that the spread of the disease has come through the infection of our hotels, homes, boarding-houses, railroads, etc., because of this limited territory, which will not occur if this proposal succeeds, and if these people were temporarily detained in certain districts, and afterwards induced to live out-of-doors, in their own homes or in tents, away from our cities, to allow nature to care for their excretions, and to thereby lessen the danger of infection, which is the end to be secured. It therefore seems a laudable enterprise to induce the national government to practically solve the feasible problem of irrigating our barren acres, not only for their commercial value, but for the direct effect on the health of the nation.

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## THE COUNTY SOCIETY—A CHANGE IN ITS BY-LAWS—A LOYAL RESOLUTION.

The December meeting of the San Francisco County Medical Society was made prominent by the passage of two resolutions that will bring about considerable change in its affairs, and possibly prove a decided step in advance. In making this statement, it is fully realized that the past has been prosperous and the management most praiseworthy. One of these resolutions necessitates a change in the by-laws that will benefit the profession at large and greatly increase the membership of the Society. This change was instigated by the open and flagrant misuse of the old ballot system, especially during the last year. Men of excellent standing in the community have been refused admission on the most trivial grounds. Petty personalities have played a prominent part, and the ballot has too often been allowed to operate against the general good.

"The committee on admissions shall hold regular sessions, and shall receive from the secretary a list of all applications for membership, together with the qualifications of each applicant, the same having previously been read in open meeting. After thorough inquiry into the fitness and qualifications of an applicant, the committee, by an affirmative vote of not less than four of its members, shall, at the next regular meeting of the Society, recommend such applicant for membership therein. Whereupon the president, if no objection is offered, shall declare such applicant a duly elected active member of this Society.

"If the committee so elect, it may decline to report to the Society upon any application which may have been presented to it. Any member or members of the committee may present to the Society a minority report, such report to be sufficiently explanatory to permit of intelligent voting, and which shall be voted upon without discussion, a majority vote of hose present being necessary for its adoption."

This new order to secure admission will no doubt have its drawbacks, but it will force all objections to be made before the Society or before the Committee of Ethics. It will require stricter attention on the part of the Committee on Admissions than has been given to this work before. Under this ruling certainly the number of objectionable men can not be any greater, and the good will be surely increased. It is far easier to rid the Society of unethical members than it was to secure first-class men, against whom some member bore a real or imaginary complaint. This resolution, coupled with the following, certainly places the Society on a more liberal and broader plane than it has ever before attained.

"Resolved, That it is the sense of this Society, that it is a society consisting of 37 per cent of the regular profession of this county; that its membership is representative of the profession at large; that it does not countenance any plan of consolidation with other local societies whereby its name or integrity would be in any manner disturbed; but that it cordially invites such members of other societies as are not now members of this to become so.

This resolution arose from the fact that the Committee on Reorganization reported that it had practically failed, and begged that a larger one than the original be appointed, on a basis of one representative to every twenty members of the Society. The report was received, and, after some consideration, the secretary was instructed to send a copy of the above resolutions, with a letter explaining the futility of further consideration of the proposed amalgamation. This act on the part of the Society for the moment seemed premature; but when it is considered what was proposed, the character of the opposition, then the hopelessness of the task was readily recognized. As in the case with all large communities, there is an element here that amalgamation would have raised to a level, where more intimate contact would be damaging to the profession at large, and would jeopardize, locally at least, all the benefits to be derived from this scheme. It has always been suspiciously enthusiastic in advocating and upholding scientific medicine, and in advancing the best interests of the profession, as has been well exemplified during the last year. It has ever aimed to sacrifice ethics and honor for personal or political aggrandizement. The proposition did not meet fully with the favor of our other societies, because the motive of the reorganization was probably misinterpreted, and because it seemed to attack the integrity of these bodies as separate entities. The reorganization plan does not aim to destroy other bodies, but admits their right to existence, and urges that they continue in existence, but hopes to make their members, members also of one leading society, to unify their interests, to the great end of unionizing the profession of the whole country into a body whose power would weigh sufficiently in questions demanding state and national action. There is no doubt that the interests of the medical body would have been better served had the proposition carried, but the local profession is hardly magnanimous enough or large enough numerically to sacrifice a little personal prerogative for the benefit of the whole. It certainly would have been derogatory to the best interests of the County Society to have lowered its colors or in any way impeached its claim as the leading Society and the arbiter of things ethical in our community. It is the largest and the oldest, and thereby lays claim justly to its title of the representative Society.

That a unity of interests, both local and state, is a necessity for the preservation of a dignified self-respect has been recently only too well demonstrated. The future promises no relief from the tyranny of politics or the traitorism of certain individuals in the profession. Locally little confidence can be placed in the incoming administration, and it is hardly rash to prophesy the entertainment of any other policy than that advocated by Governor Gage, whereby the honesty of the old Board of Health will be consigned to the shelves of that office. The action of the American Medical Association at its last meeting demonstrated beyond all doubt that the profession generally were thoroughly convinced of the necessity of national representation either in the shape of a Cabinet officer or a Commission, similar to the Interstate Commerce Commission. It is to be deeply regretted that—California, in another demonstration of its usual selfish and short-sighted policy, is unable to realize the importance of this union to itself and to the nation.

## DR. KINYOUN'S RETURN.

About the middle of December Dr. J. J. Kinyoun returned from a tour of inspection and four months' study of the diseases of the Orient, especially plague. He had hardly reached shore before the San Francisco "Call," in accordance with its well-established policy, stated that the doctor had retracted his statement that plague ever existed in San Francisco. The truth is that, after a careful survey of the history of the epidemics of China, and a careful study of several hundred cases in Manila, Hongkong, and Canton, he was more convinced that serious danger threatens our country, and that the cases reported by him here were in every way identical, etiologically, pathologically, and bacteriologically, with those seen in countries where Governor Gage, his State Board of Health, and his illustrious Commission admit that the disease exists.

# SOCIETY PROCEEDINGS

## SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Regular Meeting, December 10, 1901.

The president, J. C. Spencer, in the chair.

### CARCINOMA OF THE STOMACH.

Dr. E. G. Frisbie read a paper on "Carcinoma of the Stomach," and presented the patient and specimen to the society. The man's recovery was prompt and uneventful.

Dr. J. Henry Barbat: Cases of carcinoma of the stomach respond readily to surgical treatment if the diagnosis is made sufficiently early and all the diseased tissue removed. Of course there is always a possibility of recurrence, but it may not occur for years, and the patient has usually complete respite from the miseries attending the disease. One feature in the surgical treatment of carcinoma that makes it feasible is the fact that it rarely attacks the duodenum, and therefore the diseased tissues may be effectually removed, and an anastomosis made between the duodenum and the remains of the stomach. If the tumor is not removable, we should make a gastroenterostomy, and prevent the patient from starving to death. In a case which I showed before the California Academy of Medicine, I was unable to remove the tumor, on account of its attachments, and made a double anastomosis according to Roux. The patient, who weighed only 83 pounds at the time of operation, now weighs over 160 pounds, and is free from any discomfort. I look forward to the day when we will be able to treat these internal tumors by means of the X-ray as successfully as we can at present treat external carcinomas by this means.

Dr. C. G. Levison: In these days of intestinal surgery we hear much of surgical technic, and little of the after treatment. Witzel, in a publication of a year ago, lays great stress upon the after treatment, claiming that the prognosis is materially influenced in consequence. In his report he quotes 150 cases of gastro-intestinal anastomosis, with but one death. There are no statistics published which can compare with these. Witzel attributes many of the unfavorable results to the "decubitus" after the operation; this favors the development of a low form of pneumonia, which frequently carries the patient off. To prevent this, he has the patient, after 24 hours, sit up in bed, with his legs hanging over the edge of the bed, and after 3 days he allows his patient out of bed, sitting upright in a chair. These favorable results he claims are the direct consequence of this method of after treatment.

Dr. E. E. Kelly: I only wish to mention an anatomical variation, which I remember in another case of tumor of the pylorus, which was to the left of the median line, so far that all the gentlemen who examined it were of the opinion that it could not be in the pylorus. It involved a large portion of the stomach, and retreated under the left lobe of the liver during expiration. The incision for removal was made to the left of the median line. It seems to me this should be kept in mind, that the pylorus is not always to the right of the median line, but frequently under or to the left of the linea alba. It is usually quite movable, so that its position can not be said to bear a constant relationship to any one surface landmark. Incision should, however, be made to the right of the linea alba, regardless of the position of the tumor, if connected with the pylorus, to facilitate easy removal.

Dr. Frisbie: The anastomosis was made at the lower angle of the incision. In discussing the matter with a medical friend, he thought it advisable to make the anastomosis by a separate incision on the posterior wall of the stomach. It seems, however, as though nature has established a new pylorus, since the patient has gained as much as you could expect a man to—twelve pounds in a month—which fact would seem to demonstrate that nature is competent to control the contents of the stomach, even though anastomosis is made at the lower level.

## CONJUNCTIVITIS ETIOLOGICALLY CONSIDERED.

Dr. C. S. G. Nagel read a paper on "Some Forms of Conjunctivitis." (To be published.)

Dr. R. D. Cohn: Dr. Nagel has given us a very good review of the germs so far isolated. He has intentionally refrained from mentioning those forms of conjunctivitis of which the germs are still to be found, notably trachoma. In this connection I should like to refer briefly to an epidemic of a remarkable form of infectious conjunctivitis, which occurred three years ago in Berlin. During the summer months thirty or more young men applied at Hirschberg's clinic for treatment for what appeared to be in every case acute trachoma. Silver nitrate was applied in the usual manner, and to the surprise of the attending oculists, the cases were all cured within three to five weeks, which showed Hirschberg that the cases had not been trachoma. He instituted inquiry, and found that the young men had all frequented the same public bath, a tank of small dimensions, of which the water was changed not oftener than once a week, or thereabouts. Further investigation elicited the fact that other Berlin clinics had had the same experience with this class of cases, in fact, that there had been a small epidemic. The bath was ordered closed by the police, with the result that the disease disappeared completely. Bacteriological investigations were in every case negative. Speaking in a general way of the results accomplished in the bacteriology of conjunctivitis, they are very gratifying, as regards the etiology of the various forms. Therapeutically we are no better off than twenty years ago, before their isolation. We are in much the same position as we are in the various forms of acute suppurative middle-ear trouble. Whether the ear suppuration be due to mumps, measles, scarlet fever, influenza, or any other acute infectious process, the treatment of all the forms is practically the same.

Dr. T. B. Eaton: The subject of Dr. Nagel's paper is interesting. It is difficult to classify the different bacilli and determine the proper chemical antiseptic, so as to control the inflammation. I have had some experience in running down the different germs. Fortunately, I am very close to Dr. Ryfkogel, who has cooperated with me several times in attempting to determine the germs causing conjunctivitis, and especially corneal ulcers; but we have been disappointed sometimes in not finding the bacteria. This is of more special importance on account of the predilection the germs have for the cornea, and in spite of our best efforts the cornea is attacked, especially in gonorrheal ophthalmia, on account of the toxins, which have a distinctively destructive effect on the corneal tissue. I can cite an important discovery, one very successful inference from bacteriological investigation, made by Dr. Gifford, of Omaha. Dr. Gifford is preeminently the ophthalmological bacteriologist of the United States. He has made the most experiments, and has accomplished the most practical results. He experimented upon the diplobacillus of Morax and Axenfeld, which Dr. Nagel mentioned, and which is a most dangerous one, because, after the eye is attacked, the bacteria often suddenly attack the cornea and produce ulceration. He discovered by experimenting on his own eye that the infection is cut short by zinc chloride, and that this has been a pointer to the ophthalmologist. I largely depend on silver nitrate. The bacteria which attack the eye frequently come from the nose, and this ought to be attended to.

Dr. Nagel: I wish to say I can hardly allow the statement to pass unchallenged that we are no better off on account of these discoveries; surely being enabled to give an exact prognosis is a great step forward. Speaking about my own experience, I am a strong advocate of the silver nitrate. I have confined myself to the bacteriology of conjunctivitis; but, as Dr. Eaton has mentioned corneal ulcers, I should like to point once more, as I did in passing in my paper, to one well-defined form, the so-called ulcus serpens, as caused almost exclusively by the pneumococcus; here, even in rare cases not following upon dacryocystoblennorrhea, the cornea probably gets infected by way of the nose.

### LACERATION AND REPAIR OF PERINEUM.

Dr. H. Kreutzmann read a paper, in which he discussed the proper method of repair in these cases, and offered a procedure followed extensively in his own practice, as being preferable to many of the methods now in vogue. He strongly urged greater care in the postpartum management of our cases.

Dr. J. Henry Barbat: I am very glad that Dr. Kreutzmann has brought this subject up, as it is often neglected by the accoucheur, who, after delivering the woman, pays little more attention to her, or simply examines the perineum externally, and, if no tear is visible, concludes that none exists. Unfortunately, it is usually several years before the woman complains, and then the relaxed condition of the tissues prevents us from getting a perfect result. The examination after delivery should be made with the finger, and in that way submucous lacerations may be discovered, which can be easily sewed up after slitting the mucosa. The operation for complete laceration which I prefer is the one which was devised by Kelly, and which obviates the possibility of getting the stitches infected from the rectum. A flap is dissected from the posterior wall of the vagina, beginning at a point above the recto-vaginal septum sufficiently high so that the flap when turned down will project beyond the external sphincter, and laterally as high as the openings of the vulvo-vaginal glands. The torn ends of the external sphincter are denuded, and the edges of the fibrous coat of the vagina exposed. These structures are brought together with buried stitches, and the flap is left projecting from the rectum, its presence preventing the stitches from becoming infected through the rectum. If the bowels are thoroughly cleaned out for three days before the operation, and kept locked up for from ten to fifteen days after, we have a union sufficiently strong to withstand the stretching of a bowel movement without tearing.

Dr. A. M. Taylor: I want to congratulate the members of the society for the excellent paper Dr. Kreutzmann presented. I doubt if any of the gynecologists have failed to find that most of the lacerations of the perineum are submucous, and I doubt if any of the gynecologists will attempt to sew up a complete laceration, and leave the stitches exposed in the rectum. I think the technic Dr. Kreutzmann has given us should be observed in all cases and all the layers should be brought into apposition. If this is not done, they will return sooner or later in a worse condition than before operation.

Dr. Kreutzmann: I have little further to say, but I would like to speak a word for the obstetrician, as he has been handled severely by Dr. Barbat. After a confinement every obstetrican should look to see if there is a tear of the perineum or not; but sometimes an injury will escape notice; after all confinements there is a great amount of relaxation; we can not always tell if there is a subcutaneous laceration, and, unless a hematoma develops, I would consider it dangerous to rip open the vagina over the supposed laceration, also, from a legal point of view, and I would be careful in recommending such an operation; I think it would be better to allow the gynecologist to do the work afterwards.

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## CALIFORNIA ACADEMY OF MEDICINE.

**Regular Meeting, November 22, 1901.**

Dr. D. W. Montgomery, the president, in the chair.

### CASES ILLUSTRATING THE RAPID CLOSING OF BONE CAVITIES.

Dr. Hunkin exhibited several cases illustrating the rapid filling of bone cavities. He said: The subject of bone filling being a matter of considerable interest, and having lately occupied the attention of this society, I thought it timely to present a few cases to show how rapidly bone cavities close by natural processes under some circumstances. During the past year and a half I have had ten cases, five of whom I show here this evening, in which bone cavities have entirely filled in a few dressings, and in a short period of time. The longest case healed in sixteen dressings and the shortest in four dressings. It is true that most of the cavities have been comparatively small ones; the five herewith presented include excision of the cuboid, epiphysis, and part of shaft of the fibula; astragalus and part of the os calcis; the first and second metatarsal bones, leaving the periosteum of the second, and excision of the elbow. To a case akin, but not exactly parallel, I have lately applied the same treatment in a girl of 12 or 13 years, in which practically the whole fibia, from articular cartilage to articular cartilage, was removed, leaving a thin involucrum only, and this is so far apparently doing as well as the others. The dressing is simple, and in part common. Technic is as follows: After removal of diseased bone, the mechanical cleaning of the cavity, the space is filled with carbolic acid. This is allowed to remain for two minutes, while some rocking motion is made, to prevent air spaces in the cavity, and then washed away with excess of alcohol; alcohol gauze packing. Dressing is repeated with the same technic every four or five days, with gradually increasing intervals. The treatment, besides favoring healing in an exceedingly rapid manner, is simple, easy, and practically painless.

Dr. Sherman: It seems to me that some comment is possible here. The cases that were presented at the last meeting were cases of staphylococcus infection. Those which Dr. Hunkin now presents are tubercular infection, and the location of lesion in Dr. Hunkin's cases is in tissue, which is part cartilage and part bone, and where repair may be rapid, while the staphylococcus cases were in dense diaphyseal bone, where repair is of necessity slow. I think the cases belong to two different classes, and are hardly comparable. The method is one we both follow at the Children's Hospital, and is very satisfactory. We get rid of all douching, and simply alcohol, carbolic acid, gauze, and bandages are required for dressing. I have never succeeded in getting a case to heal in three dressings, as has Dr. Hunkin.

Dr. Gross: Dr. Rixford spoke of the difficulty in making the diagnosis in these cases; the injection of calomel will decide if syphilis is at the bottom of it.

Dr. Crowley: I do not think there is any danger in the free use of carbolic acid. I have used this agent for some time past in tuberculous tissue, and I think the idea is a very good one. In Oakland we use the X-ray in tuberculous tissue. How much use it is under the skin I do not know, but it has a curative effect in disease of the skin.

Dr. Tait: Another difference between the cases presented by Dr. Hunkin and that of Dr. Barbat is that in several of the former a subperiosteal resection was done. The conditions are not at all analogous.

Dr. Hunkin: Replying to Dr. Sherman, I would say that in about one-half of the cases the lesion was pyogenic and not tuberculous. In two of them, one of which is shown here, the diagnosis of osteomyelitis with pyemia was concurred in by Dr. Sherman. It is true that most of the cavities have been small ones, but in one under treatment at present the cavity involved the whole tibia from articular cartilage to articular cartilage, in a girl 12 or 13 years of age, and that is a cavity about as big as they make them, and certainly corresponds with the cases considered fit for "bone filling." As to Dr. Tait's question, would say that in the large boy the first metatarsal bone was removed entire, but the second was removed intraperiosteally.

### INTERSCAPULAR-THORACIC AMPUTATION.

Dr. E. Rixford: This case I present to the society as one of some interest, as it shows the result of total ablation of the upper extremity, the so-called interscapulo-thoracic amputation. The case was one of sarcoma of the upper portion of the humerus, involving the joint. The diagnosis was difficult, because of the clinical resemblance to tuberculosis of the shoulder-joint; pain, great muscular spasm, limitation of motion, presence of fluid in the joint, and symmetrical enlargement. Early in April an incision was made into the front of the joint, the intention being to perform a resection. Kocher's incision gave excellent access to the joint, permitting satisfactory exploration. The head of the bone was almost entirely disintegrated; the joint was filled with grumous material, and the insertions of the muscles surrounded with a considerable amount of fibrous tissue and large masses of newly-formed bone. The disease was evidently not tuberculosis, but almost certainly sarcoma; but as I did not have permission to amputate, I removed the upper extremity of the humerus for examination, expecting to amputate later. The pathologist, Dr. Ophuls, confirmed the diagnosis of sarcoma, but also reported that the material contained an extraordinary amount of inflammatory tissue, so that he could not positively exclude syphilis. For this reason, and because there were one or two circumstances in the history of the case of doubtful character, I preferred to resect the humerus as far as diseased, and await results. This was accordingly done, and nearly the whole of the shaft of the humerus was removed. The wound healed properly enough, but recurrence rapidly took place, and a well-defined tumor, hard, and of the size of a walnut, formed under the deltoid. On June 11 last, interscapulo-thoracic amputation was performed, as described by Berger. The operation is briefly as follows: An anterior incision from a little above the clavicle is made extending downward over the coracoid process, across the axilla to the edge of the latissimus dorsi muscle. The clavicle is then exposed, and sawn in two places about two inches apart, giving access to the subclavian vessels. The subclavius muscle is cut across, and a provisional ligature is passed about the vein, but not tied. The artery is then ligated and afterwards the vein; this to save the blood contained in the arm. A posterior incision is then made from the upper end of the first incision, across the acromion, and downwards to the lower end of the first incision. The exact position of these incisions is, of course, to be determined by the position and size of the tumor. The muscles in front are cut, and the scapula is thrown backwards, when the nerves and the posterior muscles are rapidly divided. In this case I made drainage, but only because of the fact that there had been suppuration after the former operation, and there was a small sinus still left, which was, of course, infected. The wound healed by primary union, except at the point of drainage. Berger reports 46 cases, with a mortality of only 2 per cent, which is a remarkable thing, when one considers that the operation is almost always performed for sarcoma. Berger recommends the interscapulo-thoracic amputation as a normal procedure in malignant tumors of the humerus, since he is able to show 30 per cent of cases in which the amputation is done as a primary operation, free from recurrence at the end of a year, while, when it is done as a secondary operation, there is recurrence in practically every case. In this case the operation was done in the middle of June last, and she has by this time learned to use her left hand remarkably well. She does her housework, combs her own hair, and does almost everything she formerly did with two arms. The deformity is considerable, but the dressmaker with a little ingenuity can fix a pad to fit the shoulder.

Dr. Sherman: I have here some photographs of a case of sarcoma of the head of the femur, in which the symptoms were analogous to Dr. Rixford's case. I thought it was tuberculosis until I made the incision to do an excision, and then found it was a sarcoma. We found that it could not be all removed by an excision, and we amputated through the hip, and the man succumbed. The condition simulated tuberculosis so closely that it was impossible to differentiate; the joint was rigid, and there was reflex muscle spasm, pain, and disability. In regard to the use of Coley's fluid in sarcoma, I have lately had a patient who has lympho-sarcoma in the neck. I injected the Coley's fluid in large doses, but it did not produce any effect. I declined to remove the glands, because I could follow them down to and behind the clavicle, and percussion showed that they extended down lower; but I failed to get anything out of Coley's fluid. It has not achieved much success with round-cell sarcoma.

Dr. Crowley: I witnessed the operation at Edinburg by Bell, but he differed from Dr. Rixford in one particular, that is, dividing the clavicle. He used a scewer and then a figure-8 compress, and it is nearly a bloodless operation. I think that is the only difference I can see, and I think the scewer is a convenient way to control the hemorrhage. I have treated a few cases of sarcoma, and I think we can derive some benefit from the Coley fluid. I used it on a patient where the pectoral region was affected to the pleura. I did not expect the patient to recover, but she apparently got better, and none of the glands became affected afterwards. I used the serum for three months. Whether it was the serum or a coincidence, I am not sure. The pathologist claimed it was a round-cell sarcoma.

Dr. Rixford: The matter of blood supply is, of course, very important. The operation as prescribed by Berger is almost bloodless. There are but two arteries of any size, besides the main subclavian, viz., the branches of the thyroid axis leading towards the scapula, the suprascapular and the transversalis colli, and these are easily controlled when cut. Of course, in the light of subsequent recurrence, such a clinical history is unfortunate. One should make the diagnosis and do the amputation as a primary operation. Manipulation of any sort makes the probability of recurrence much greater. Here, however, after five months, there is no sign of recurrence, and the general health is excellent.

### ANKYLOSTOMIASIS.

Drs. L. A. Kengla and H. A. L. Ryfkogel reported a case of ankylostomiasis. (To be published.)

### THE KUSTNER INCISION.

Dr. H. Kreutzmann read a paper advocating the transverse or Kustner incision in certain cases. He urged its use for cosmetic effects, declaring that almost as much room could be had in this way as by the ordinary median incision.

Dr. Crowley: I can easily understand that this incision might be to advantage in a fleshy patient, where, especially in the sitting posture, a wrinkle is just above the pubes. That is the intention after the superior wall and inferior wall are separated by traction, and we could reach the ovaries and uterus with the same ease as in a patient where there is no adipose tissue. I can see very much in favor of it in a lean patient. I think it requires a great deal of experience for a man to know when to operate through the vagina or through the abdominal wall. I have started several times to remove a fibroid through the vagina, and operated afterwards through the abdominal wall.

Dr. James F. McCone: I have no personal experience with this method. I saw one operation, and noted that there was considerable difficulty to get at the pelvic organs on account of the size of the wound. I think this part of the abdomen, where there are hair follicles, would be much harder to sterilize than the middle line, consequently the danger of infection is much greater.

Dr. Tait: I have used the Kustner incision in three cases, the first, in 1893, for cystotomy. I did not, at that time, find any advantage in the transverse incision. Two years ago, at the French Hospital, I again resorted to this incision in two cases of hysteropexy. In both cases a hematoma developed between the fascia and subcuticular fat. This may have been due to faulty stitching, but I noticed a marked retraction of the fascia and the formation of a dead space immediately above it. Both cases consequently required drainage and a longer sojourn in bed than is usual in simple abdominal sections. I am convinced that Kustner's incision enables one to explore, at least with the finger, the entire pelvis, but I think Dr. Kreutzmann will soon find out that only minor or certain conservative operations can be safely done by this incision. The tendency to-day is toward total extirpation of the uterus and adnexa for purulent affections; this can seldom be done satisfactorily and safely through the limited field afforded by the transverse incision. Many gynecologists incise unnecessarily high in the median line. Jayle, of Paris, extends his incision at least 3 or 4 cm. in the hairy region, thus facilitating considerably the exploration of the pelvis, and leaving a scar much shorter apparently than that following the usual high incision. I believe that the cosmetic factor has been exaggerated in considering the various modes of closing the abdomen. Some time ago I questioned a number of women upon this point, inquiring particularly of those belonging to what the French call "the horizontal type," who, for obvious reasons, might offer certain objections. All of them assure me that a clean, neat scar was satisfactory. What most patients desire is a rapid and easy cure; very few are concerned about the conservation of a more or less amount of intact cuticle. To sum up, I am convinced that the adoption of the transverse incision would be an illogical concession to the old English surgeons, who were guided solely by the sense of touch, and from whose blind influence we should congratulate ourselves to have been liberated.

Dr. Kreutzmann: As far as the situation of the incision is concerned, it is a little above the symphysis pubes. The extent differs in different cases, and the incision made is somewhat crescentic. I have not measured the length of the incision, but I have made several and got room enough to work well, and I could see what I was doing. I am of the opinion that we must abandon the way of feeling around inside without seeing anything. You do not get near the umbilicus with the opening. The transverse incision is 8 to 12 cm. long. Kustner first published this method of entering the abdomen for the purpose of operating on the genital organs of women; his idea was to avoid a scar, which might prevent other people from being operated upon. Sometimes a woman who should be operated upon will refrain on account of the scar which she saw on some other woman's abdomen. It is a fact that women always submit to a vaginal operation easier than an abdominal. As to hair follicles being in that region, certainly absolute antisepsis is essential, and we would not dare to do anything if we did not know how to sterilize where there is hair growing. For that reason no physician would be prevented from opening the skull. It is important to suture the wound very carefully. A discharge of fatty substance is sometimes seen in any incision in the abdomen. Dr. Tait spoke about the line where the abdomen hangs over, and I follow that line that is seen in fat women. I have only a few cases where I made this incision, but certainly there are cases where this device is a very neat procedure.

### TREATMENT OF ULCERS.

Dr. D. D. Crowley, Oakland, read a paper offering his method of the treatment of ulcers, especially old, chronic varicose ulcers, which consists in rendering the granulating surface as healthy as possible; then, by a series of incisions into the excavated, overlapping skin edge, a tongue-like flap is secured, which is drawn towards the center and a proper dressing applied. In order to secure granulations, carbolic acid, followed by alcohol, is poured into the excavation.

Dr. H. Kreutzmann: While I was assistant at a general surgical hospital, we had a great many of these old cases, and the method my chief used was that of cutting through fascia down to the muscle, and I have seen wonderful results. The method of Dr. Crowley is very ingenious. The only objection I would have is that the skin that he puts in there to cover the surface is bad skin, and I think it would be wiser to use the old Reverdin method of transplanting sound skin.

Dr. Sherman: I would like to ask the doctor what benefit the procedure is over the Thiersch graft.

Dr. G. H. Evans: I would mention the fact that some enthusiasts in this city are using the peptone paste, with fine results, in chronic ulcers, notably Dr. Levison.

Dr. Crowley: I have very little to say, except in all cases of old ulcers there are no healthy granulations. They are few and scattered. There is a hard callous there that can be felt distinctly under the finger. I make an oval incision, and, instead of cutting entirely away, I coax the flap to the center, and no one can tell the difference between that and any other skin. We should not put much stress on the fact that it is covered with cicatricial tissue, and I think it stimulates it to growth. I brush it first with carbolic acid. I will assure you that the ulcer will heal up under these circumstances. It is practically turning an ulcer into a healthy wound.

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## MEDICO-CHIRURGICAL SOCIETY.

**Regular Meeting, November 4, 1901.**

Dr. Henry Gibbons, Jr., occupied the chair.

### EMPYEMA OF THE ETHMOID CELLS, REPORT OF A CASE.

A. G. Rosenthal, M. D., reported the following case:—

Boy, age 9 years, presenting a history of profuse discharge from the left nostril for some days previous to the onset of a fever. Examination, March 26, 1901, revealed the following facts: Temperature 102.5; slight delirium; pulse 120; marked swelling and hyperemia of the skin, of the eyelids, and of the surrounding parts, extending downward over the face, and over the forehead. The most prominent symptom was very great pain, both spontaneous and on pressure over the swollen portion, and furthermore an exophthalmus. The left eyeball was displaced forward, downward, and outward. Examination of the nose at the time revealed no pus, but the mucous membrane was greatly swollen. The diagnosis made at the time was empyema of the ethmoidal cells, with probable involvement of the frontal sinus. Operation was advised and undertaken on the next morning.

The frontal sinus was widely opened by burr, but nothing abnormal presented. Care was taken to make numerous and large openings from the frontal sinus into the ethmoidal cells, and through the ethmoidal cells into the nose. Thinking that a retrobulbar abscess might be present in the orbit, the left orbit was explored, but nothing was found there to account for the exophthalmus. The frontal sinus was packed, and the operation herewith concluded. Twenty-four hours later the patient's temperature had fallen to 100 degrees, with pulse 110. The site of the operation presented, if anything, an increased swelling, with very extensive ecchymosis. An examination of the left side of the nose showed quite a quantity of thick pus, covering the whole of the inferior turbinated bone; there was also some pus covering the middle turbinated bone. The degree of exophthalmus remained the same, and so persisted for nearly a week. At the end of a week from the time of the operation, the exophthalmus was somewhat lessened, and at the end of four weeks had disappeared entirely. During this period, the patient's vision was disturbed for near points, and a marked diminution was noticed. Owing to his condition, the acuteness of vision could not be obtained previous to the time of the operation.

The patient's subsequent history was uneventful, the wound in the frontal sinus healing by granulation. At the present time the patient is well, and presents no evidence of his unpleasant experience, save for the presence of a small, somewhat curved scar extending from the bridge of the nose outward, and being lost in the eyebrow. The differential diagnosis in this case presents some features of interest. Owing to the displacement of the eyeball, so markedly downward, forward, and outward, the diagnosis seemed to lie between the following three: Empyema of the ethmoid cells, retrobulbar abscess, and empyema of the sphenoidal sinus. The history of the case, and the acute onset, seem to exclude tumor of the orbit. Of course, an absolute and positive diagnosis could not be made, and it was only at the time of the operation that the provisional diagnosis of empyema of the ethmoid cells was confirmed. The points which seemed to bear against the probable involvement of the antrum of Hymore were the character of the displacement of the eyeball, and the negative result of the examination for transmitted light. The exophthalmus was undoubtedly due to an orbital cellulitis. Displacement of the eyeball downward and outward was the result of lateral pressure, by the pus confined in the ethmoidal cells. The case is a good demonstration of the facility with which the anterior two-thirds of the ethmoidal cells may be reached through an opening in the frontal sinus.

## THE CHEMISTRY OF NERVE DEGENERATION, WITH DEMONSTRATION OF CHOLIN CRYSTALS.

J. O. Hirschfelder, M. D., reported the following case:—

Brain tissue consists of water, from 80 per cent to 90 per cent in the gray, to 70 per cent in the white matter; and solids, of which the proteids and phosphorized fats are the most important. Of these proteids, one is nucleoproteid, containing 5 per cent phosphorus; two are globulins, one of which evaporates at 47 degrees C., and the other at 70 degrees C. The phosphorized fat, called protagon, on decomposing yields cerebrin and lecithin. The latter is a fat which on hydrolysis yields not only fatty acid and glycerin, like other fats, but in addition, phosphoric acid and cholin, the phosphoric acid containing all the phosphorus of the lecithin and the cholin all of its nitrogen. If 10 cc. of a 2 per cent solution of cholin be injected into an animal, a fall of blood pressure occurs, due in some measure to its action on the heart, but mainly to dilation of the peripheral blood-vessels, especially in the intestinal area. Cholin is a substance which is somewhat toxic, and can be easily recognized by chemical tests. Its presence always indicates nerve degeneration. This cholin can be found in the cerebrospinal fluid in general paralysis of the insane, likewise in the blood of those patients. It can be found in the blood of patients in convulsions, and also in other cases of nerve degeneration, as, for example, in the case which we herewith report:—

O. T. B., aged twenty-three, single, native of California, occupation soldier. Admitted to the City and County Hospital Sept. 9, 1901. Died Oct. 22, 1901. All that could be learned of the family history was that the patient's father died about two months ago of paralysis. The patient has been, previous to one year ago, a soldier, and has served about three years. For the past year he has been tending bar. He has smoked cigarettes excessively. He had been sick about three weeks previous to his entrance to the hospital, but had been much worse during the week immediately previous to entering the hospital. He has been complaining severely of rheumatic pains, which in the beginning affected the right knee and the leg below the knee. Pain was next felt in the right hip-joint, and for this the patient used a blister. The joints on the right side were all swollen and reddened, the pain was intense, and at this time he seemed to be suffering with high fever. Up to the 8th day of September, and including this date, the patient was able to talk intelligently and easily, and also was able to move painfully about his room. During his illness he has had severe headache. Inability to talk began the evening previous to entering the hospital.

At 4 A. M., September 9, he was found absolutely unconscious. After rubbing with hot cloths, he seemed to partially regain consciousness, but was unable to speak a word. It was learned that he had had "heart trouble" since a child. He had typhoid fever many years ago, and had dysentery in the Philippines; but previous rheumatic attacks were unknown in his history. The patient was taken from his room in a semi-paralyzed condition, and was brought to the hospital on a stretcher. He was unable to talk, but was partially conscious, and was able, by nodding of the head, to express answers affirmatively or negatively. At the time of admittance the right pupil was slightly larger than the left, but both reacted to light. There was general glandular enlargement, although the epitrochlear glands were not to be felt. The area of cardiac dulness was increased, as follows: Upper border third rib; right border, right sternal border; apex in the fifth interspace, three centimeters to the left of the mammary line; apex beat was both seen and felt, and a loud, systolic murmur at the apex was transmitted to the axilla. The tongue was protruded to the right. The right side of the face was paralyzed. The next day the following notes were made: The appearance of the patient is brighter; right pupil decidedly larger than the left; both pupils react to light; eyes can be both tightly closed; paresis of right lower facial marked; right eyebrow is not raised as high as left, although it is a little difficult to get the patient to do as directed; the tongue protrudes to the right; patient can move right arm with difficulty. At times he has difficulty in understanding words; for example, when told to show fingers, he puts out his tongue, shakes his head, and smiles, indicating that he has made a mistake. On repeating the same request, he again puts out his tongue. When asked, What is this? pointing to a mug, and asking if it is a ring, he shakes and nods his head, and smiles. On writing a request, as, "Raise your arm," he smiles. When told to "do it, then," he raises left arm. On presenting hand, and saying, "Good-morning," the patient grasps hand with his left hand. No dulness of the lung. Respiration vesicular; few rales over both sides of the thorax. Area of cardiac dulness, third rib, right sternal border, sixth rib three centimeters to the left of mammary line. Apex beat visible over a large area in the fourth and fifth intercostal spaces, extending some distance to the left of mammary line. It is distinctly elevatory in character. Systolic and diastolic murmurs at the apex. Clear tones at the aorta and pulmonary. Pulse small, feeble. Blood pressure, maximum 75 to 85. Abdomen not distended. Liver, 13½ centimeters, consistency not markedly increased. Spleen, posterior axillary line, inguinals markedly enlarged. Urinary examination: Specific gravity, 1,029; reaction acid; trace of albumen; no sugar; no indican; no diazo reaction. Microscopical examination: No casts; uric acid crystals; epithelial cells. September 11. No particular change. White blood count 10,200. By pipette blood was taken from the median basilic vein yesterday, but it showed no growth on three agar tubes. September 12. Reexamination of inoculated tubes taken two days ago; one shows very faint growth, which microscopically presents staphylococci. From the agar tubes reinoculation of three other tubes was made. September 13. The inoculated agar tubes presented no growth. September 14. At 10 A. M. patient suddenly seized with convulsions; muscles of left side were suddenly contracted, and grew rigid. Patient would move the left arm and leg suddenly, but no rapid irregular jerkings were noticed. At one time the patient turned partially over on the right side, so that the left arm trailed over the edge of the bed, nearly touching the floor. At the same time complete consciousness seemed to leave the patient. Respirations were very slow and faint at first, but later grew more rapid and stertorous. At 12 M. they were about 28 to the minute. During remainder of the day patient tossed about in bed, necessitating tying by sheets. Consciousness was not regained at any time during the day. Eyes have a dull and distant look. There is incontinence of urine. Milk is given with difficulty, although the patient swallows slowly. If the patient is roused at all, he seems to be in pain, as indicated by moaning. This condition continues until about the 17th, when 100 cc. of blood were taken from the median basilic vein. Two days later the condition of the patient seems much better. The pupils are moderate in size, and equal. Patient comprehends what is said to him much better, but still is unable to speak. He grasps with the left hand, evidently trying to speak. Patient is able to move his right hand. Cholin crystals were found in the blood removed at the time of the venesection. The white blood count shows white 23,550. The patient remained in about the same condition until October 20, when the following note was made:—

"Patient has been more restless, tossing from side to side, and turning completely over on his right side. Breathing this evening is more dyspneic, a little stertorous."

October 21. The patient this evening was suddenly seized with convulsions, at which time the body and limbs suddenly became rigid, followed by irregular jerkings of all the limbs. Gradually, however, the limbs became contracted again. Breathing became decidedly stertorous. Pulse rapid, feeble, and irregular, the face and hands gradually becoming cyanotic. The patient died the following day, October 22, at midnight.

The following is a record of the postmortem findings by Dr. William Ophuls: Delicately-built, emaciated man; middle aged; no edema; no enlargement of the superficial lymph glands; skin and visible mucous membrane very pale. Slight cyanosis of both hands and lower part of both arms. Abdomen very much retracted. Marked green discoloration of the abdominal and thoracic wall. Superficial excoriations over the trochanter major, left thigh, crest of the iliac bone on the right side. Very marked atrophy of the subcutaneous tissue and muscles. Thorax is narrow; upper part is very flat and a little depressed. Liver projects three fingers' breadths below the ribs. Peritoneum pale, moist; contains a little bloody fluid. Diaphragm at the fifth rib on both sides. Thin adhesions between the anterior parts of both lungs and the sternum. Lower and posterior part of right and the entire left pleural cavity are obliterated. The skull cap is very thick and heavy—14 by 19. Average thickness between three and four mm. Few soft clots, post-mortem, in the longitudinal sinus. Cyanosis and slight edema of the pia mater on the right side. About the middle of the posterior border of the frontal lobe there is a badly-defined red spot, about 1½ cm. in diameter. On the left side, cyanosis and edema. Convolutions are slightly flattened. Sinuses at the base are normal. There is less hyperemia of the pia mater on the lower surface of the brain, but some edema. Consistency of both temporal lobes is very soft. Walls of arteries at base are normal. Trunk of the right middle cerebral artery filled with a slightly-adhesive, firm, gray thrombus, which extends to the first branches. The substance of the cerebrum is edematous. Consistency of the brain is very soft throughout; especially marked softening in the temporal lobes of both sides. The left middle cerebral artery is very small, and the wall is thickened; the lumen is filled with a soft, brown mass. Softening of the temporal lobes is perhaps a little more marked on the left side. Adhesions on the left side are easily broken. Pericardium is completely obliterated by easily-broken adhesions. The heart is slightly above the normal size. Post-mortem clot in pulmonary artery. The right side nearly contracted, left side extended; contains soft, red post-mortem clots. The wall of the right ventricle averages three, the left ventricle 10 mm. Along the free edge of large sail of mitral valve there are thick, partly red, partly gray, thrombotic deposits, the largest one about 1½ cm. long. The deposits follow the tendinous cords. Several of the tendinous cords are partly destroyed. The heart muscle is soft. The papillary muscles show gray discolorations. Few yellowish specks in the right coronary. The aorta is small and inelastic; its inner circumference is 5 cm. Left lung shows marked hyperemia and edema. Posterior part of lower lobe shows a diffuse consolidation. A turbid, brown fluid escapes from the cut bronchial tubes. The right lung is the same as the left. Both lungs are very much decomposed. Easily-broken adhesions on the convexity of the spleen. Spleen measures 17½ by 10½ by 4, and full of small and large necrotic, anemic infarctions, the largest one about 6 cm. in diameter, with central softening. This infarction is surrounded by a bright yellow zone, about 2 mm. in diameter. Other infarctions are bright yellow and very hard. The left adrenal is much decomposed. Left kidney the same; contains a yellow anemic, necrotic infarction 3 cm. in diameter. Right kidney contains nearly completely-organized small infarctions, and another more recent one at the lower pole. Some adhesions between the tunica vaginalis of the right testes. The bile duct is open. Pancreas is normal, except for the advanced putrefaction. Stomach is normal. Liver and gall-bladder normal.

Diagnosis: Chronic ulcerative endocarditis. Anemic necrotic simple and septic infarctions of spleen and kidney. Adhesive pericarditis and pleurisy. Parenchymatous degeneration of the kidneys. Broncho pneumonia. Old embolism of the left middle cerebral artery; recent embolism in the right middle cerebral artery. Marked yellow softening of the left, less marked softening of the right temporal lobes, and lateral parts of the basilar ganglia.

Histological examination of the specimens removed.—Kidney: Large area of necrosis. In periphery of necrosis there is a considerable amount of fat, in the form of larger and smaller droplets, and mostly in the interstices between the tubules. Along the edge of the necrotic area there is a marked thickening of connective tissue, with atrophy and fatty degeneration of the tubules. In the necrotic area there are small, irregular areas of softening, that are filled with polymorphous and nuclear debris. The renal tissue some distance away from the necrosis shows a slight diffused thickening of the interstitial tissue, and a considerable amount of fat in the connective tissue and tubules and ascending loops of Henle. The liver: Moderate fatty infiltration, marked pigmentation of the cells in the centers of lobules, and marked thickening of the walls of central veins. The lung: Very much hyperemic. In spots there are air spaces that are filled with coagulated and edematous red corpuscles, desquamated epithelium, and polynuclear cells, and in spots a little fibrin. Spleen: Large area of fatty degeneration and necrosis. Fat is mostly in the periphery. Necrotic areas surrounded by a moderately thick layer of fibrous tissue. In spots the necrotic material is softened, and in these places there are polynuclear cells and nuclear debris. One of the tendinous cords of the mitral shows fatty degeneration of cells in it. On the surface it is covered with a thrombus, which is mostly gray, and in spots red. On the surface of the thrombus there is a thin layer of polynuclear cells. A different cord shows, first a marked fibrous thickening around it, then a similar thrombus, in which there are many large heaps of bacteria. Bacteriological examination: The heart valve, from the large sail of the mitral: coverslips, many single and diplococci in irregular groups. Many large bacilli in chains like anthrax bacilli. Spleen softened infarction; many colonies of staphylococcus pyogenes aureus. Spleen: solid infarction; no growth. Liver: many colonies of colon bacilli.

Dr. Hirschfelder: This case was one of embolism of the middle cerebral artery, causing complete paralysis of one side of the body, and probably also degenerative changes in the brain substance, the result of the shutting off of the blood supply. Before death took place, it was possible, a number of times, to collect from the blood of the patient (bleeding had been resorted to several times) the cholin crystals which are shown to-night. The feature of interest in this case was the great accuracy with which it was possible to diagnosticate vegetations on the cardiac valves by means of sphygmographic tracing. This tracing is, as you will see, of extreme regularity, almost machine-like in its outline, showing that, although the heart had been dilated, yet it had responded perfectly to the compensatory changes that had made it possible for it to exhibit a remarkably even and symmetrical tracing. It is a record of cardiac action very seldom seen, yet of extreme diagnostic importance. Organic change in the heart valves would not have allowed such a tracing.

Wm. Ophuls: At the post-mortem examination of Dr. Hirschfelder's case we found a new clot in the right middle cerebral artery. This was undoubtedly the immediate cause of death. There was extreme softening on the right side. In the middle cerebral artery on the left side there was a partly softened old embolism, and on that side of the brain a partial softening of its substance. On the mitral valve were vegetations of the chronic ulcerative form. This form of chronic ulcerative endocarditis is more common than one would imagine by reading the text-books. This form is a combination of thick-walled variety, due to compensation, with the ulcerative changes due to the microorganism present. In this case it was the staphylococcus pyogenes aureus. These were present in large numbers in the vegetations on the heart valve. These vegetations are soft, and, of course, it is very easy for them to be washed off and form emboli in different parts of the body, particularly in the brain. One other peculiarity of this case was that the emboli produced in the internal viscera did not seem typical of embolism in general. They were more like simple obstructions in the blood-vessels than like infective, suppurative foci of disease. In the kidney and in the spleen, where emboli also were found, there was no suppuration, except in one place in the spleen. It seems as if in this case the pathogenic organism was greatly attenuated. I can not explain the lack of suppuration on any basis.

### DISSECTING ANEURISM OF THE AORTA, WITH BLOCKING OF THE SUPERIOR MESENTERIC ARTERY.

Dr. P. M. Thomas reported as follows: Mr. F. B., aged 35, native of New York, had always enjoyed exceptionally good health; mother died of cancer at 49; father of organic heart trouble at 66; one brother living and well. On July 28, 1901, about 12:30 P. M., after arising from a card table, where he had been seated for several hours, he was suddenly seized with a most intense pain in the region of the heart. He retired to his room, in the same building, where I saw him, shortly afterward. The patient was suffering extremely, so much so that he could remain quiet but for a few seconds at a time. He described the pain as tearing in character, confined entirely to the cardiac region, and not radiating in any direction. There was no dyspnea; the temperature was normal. Physical examination of the heart revealed nothing out of the ordinary, excepting a slight accentuation of the second sound at the aorta. Large doses of morphin and inhalations of nitrate of amyl afforded no relief. At 3 A. M. he was given an injection of one one-hundredth grain of nitro-glycerin, with the result that a few moments later the pain had disappeared, and at 4 A. M. he was asleep. On visiting him at 7:30 A. M., I found him sitting on the edge of the bed. He said he had awakened only a short time before, felt nauseated, and vomited about half a pint of dark brown fluid, which examination showed to be decomposed blood. He was suffering no pain, and complained only of lassitude and weariness. He was ordered to bed, with restricted diet. At 2 P. M. of the same day, I received an urgent call from the patient, and on my arrival a profound change in his condition was apparent. He complained of great pain in the right iliac region. The abdomen was distended, with gas more markedly on the right side. There was localized tenderness in the same region, but no tumor was palpable. On auscultation no sounds of peristaltic action could be heard. Temperature 99, pulse 110. Calomel and rectal injections not having had the desired effect, Dr. Emmet Rixford was called, and saw the case with me at 4 P. M. The patient's condition at this time was about the same, excepting that the temperature was 99.2, and the pulse rate 118. It was decided to remove him to a hospital, and prepare him for operation, should his condition not improve. At 6 P. M. he was taken to Lane Hospital. At 8:30 his condition was decidedly worse. Temperature 100; pulse over 140; pain and restlessness were returning. A blood count showed the presence of 27,000 leucocytes. He was anesthetized, placed on the operating table, and an incision made over the region of the appendix. On opening the peritoneum, a few ounces of dark-colored, foul-smelling fluid escaped. The intestines were dark in color, and one portion of the small intestine about eight inches in length was almost black. The peritoneum retained its luster, and no adhesions or other evidence of an inflammatory process was present. The appendix showed no signs of disease. Owing to the character of the fluid which escaped on opening the peritoneum, it was thought that possibly a perforation of the bowel might have occurred. With this idea in view, a second incision from the tip of the ensiform cartilage to the umbilicus was made, and a thorough search of the intestines instituted. No perforation being discovered, the abdominal incisions were closed, and the patient removed from the table. Death occurred the following morning at 12:50. On post-mortem examination, the stomach was found greatly dilated. The small intestines, and especially the transverse colon, sigmoid flexure, and rectum, were much distended with gas. Most of the intestines were red, but a few coils of the smaller gut and the cecum were black, and appeared necrotic, though the peritoneal covering was everywhere shining. About a pint of dark-colored, foul-smelling fluid was found free in the abdominal cavity. The greater curvature of the stomach showed a number of small hemorrhages into the mucous membrane. A pint of thick fluid and a few grains of green corn were found in the organ. The liver was pale in color, but otherwise normal, as were also the spleen, pancreas, and kidneys. Each pleural cavity contained a few ounces of bloody fluid; there were no adhesions between the layers of the pleura. The cellular tissue about the base of the heart, especially on the left side between the pericardium and the pleura, was infiltrated with blood. About two ounces of bloody serum were in the pericardium. The heart was large, but showed no sign of degeneration or organic lesion. On opening the external coat of the aorta from behind, an oblique tear 1½ cm. in length was found in the intima at the summit of the arch. The tear had sharp edges, and allowed direct communication between the lumen of the vessel and cavities in the media formed by the blood burrowing between its different layers. In portions of the aorta, ring-shaped bands of the media were more or less completely isolated by the blood burrowing in front and back of them. The separation of the coats in no part of the aorta was a complete one, but was confined mostly to the back part of the vessel. The dissection extended to the bifurcation, and then followed the left common iliac, the right being uninvolved. On opening the lumen of the vessel, an atheromatous ulcer, 9x9 mm., with slightly raised, irregular edges, was found in the intima near the commencement of the left subclavian artery. From an opening in the base of the ulcer, a probe could be passed directly into the cavities formed in the substance of the media. But few atheromatous changes were found in the remaining intima. The separation of the arterial coats extended into the left subclavian artery, somewhat diminishing its lumen. None of the other branches of the aorta were involved until the superior mesenteric was reached, where the separation of the coats of the latter artery was such as to almost completely occlude its lumen by pressure on the outside. Most of the subdivisions of the superior mesenteric were similarly blocked.

Dr. Rixford: The patient was seen by me fourteen hours after the onset of the trouble. The pain, which was originally near the heart, had ceased in that region, and had appeared in the abdomen. The patient was terribly ill. The pulse was 130 and gradually increasing to 140, and even 150, while we were present. There was marked distension of the abdomen and complete intestinal obstruction. The ear on the abdomen heard no sound except the beating of the heart. There was apparent peritonitis, but from what cause it was impossible to say. Operation was performed, as the only thing offering any hope at all, and at the request of the patient. It was in the nature of an exploratory incision, to find out the cause of the trouble and relieve it, if possible. When the abdomen was opened, a small quantity of black, foul-smelling, thick fluid escaped. It was quite different from ascitic fluid, and had the odor of decomposition, but not the peculiar odor of colon bacillus infection. The appearance of the intestine was striking, inasmuch as it was dead looking and flaccid, like the intestine of the cadaver on the dissecting table, in marked contrast to the ordinary appearance of the intestine in the living subject. The bloodless condition of the intestine made the diagnosis of obstruction of the superior mesenteric artery practically certain. One feature of the case, which was most remarkable to me, and which Dr. Thomas has omitted in his paper, was the extraordinary cyanosis, which was sufficient to be noticed at the time I was called, and which under the anesthesia was gradually increased, till, when he left the table, he was gasping for breath and was livid. This became more and more intense until he died. In striking opposition to the appearance of the intestine in this case was that of another on which I operated not long ago, where there was found obstruction of the portal vein. Here the intestines were very thick; they were thick and firm enough to stand by themselves, to stand alone; that is to say, that, if a piece of the intestine had been cut off by itself, dissected out bodily, it was so thick that it would have stood on one end, without support, of its own strength. In the case of Dr. Thomas' patient, in spite of the bad general condition and the diffusion following manipulation of the intestine, the pulse remained good, and anesthetic was otherwise well borne. The cyanosis, however, deepened under anesthesia, and, as I said before, was particularly marked and the man was almost black before he left the operating table.

Dr. Ophuls: This is the first case of dissecting aneurism I have seen. It had a strikingly small beginning. The blood, after passing out through the relatively small ulcer, had burrowed upward and downwards, principally downwards. The rest of the aorta was in good condition. It seems to be particularly unfortunate for the man that the break came at that particular time, and at that particular place in the weak aorta. I do not understand the extreme cyanosis that was present.

Dr. Rixford: At the autopsy, which was made by Dr. Thomas and myself, there was found a calcareous plate in the left iliac artery. The other organs of the body seemed to be in normal condition. No exudate was found in the pleural cavity, except a small amount of fluid. There was a little bloody serum in the pericardial cavity, and in the left mediastinal cavity there was found a large infiltration of clotted blood. It may have been this which produced the cyanosis.

Dr. Ellinwood: Shortly before this case occurred, I remember reading a report of a case in one of the journals, wherein the history of a patient with a fatal illness was recorded, during which occurred a train of symptoms that were strikingly similar, I may say almost identical, with those presented by Dr. Thomas' case. This was the fatal issue of an attempt made to treat an abdominal aneurism by the coiled-wire method. The clot produced had been so extensive that it had occluded the orifice of the superior mesenteric artery; and, as I said, just such a train of symptoms was produced as Dr. Thomas records in his paper.

Dr. Gibbons: I would like to ask Dr. Ophuls how many cases of aneurism there are occurring at the present time at the City and County Hospital.

Dr. Ophuls: I have not seen very many, I think about three or four a year.

Dr. Gibbons: My reason for asking was to see if there had been any increase or diminution in the number of cases of deaths from aneurism in late years. About thirty years ago, when I had charge of the hospital in its old place on Francisco Street, and also about the time that I had charge of St. Mary's Hospital, there occurred, from aneurism, about twelve deaths a year, and my impression since that time had been that aneurism as a disease, as the cause of death, had been decreasing.

Dr. Rixford: Probably that is true, for the relation of syphilis to aneurism is well known, and it is unquestioned now that syphilis is recognized much earlier than formerly, and is better treated than it was in former years; hence the smaller death rate from aneurism. At any rate, such a result should be a thing to be expected.

Dr. Thomas: I had hopes that some one would touch upon the subject of the extremely large number of leucocytes shown by the blood count in this case. In some experiments on dogs, made some time ago, an enormous leucocytosis was found to be present just before death from exsanguination. Dogs were chosen for experiment, because the white blood cells in dogs approximate closely the figures of those in human blood. It was found that the average number just before death by bleeding was twenty-eight thousand. I mentioned this because it may be an extremely valuable diagnostic point.

## SAN FRANCISCO SOCIETY OF EYE, EAR, NOSE, AND THROAT SURGEONS.

Regular Meeting, October 17, 1901.

F. B. Eaton, M. D., president, in the chair.

### RECURRENT FIBROMA OF NASO-PHARYNX.

Dr. J. H. Philip presnted a case of and read a paper on "Recurrent Fibroma of the Naso-Pharynx," and also exhibited specimens.

Dr. Payne: The specimen shown this evening is certainly exceedingly interesting, but particularly the case that of recurrent fibroma of the naso-pharynx. I have lately had a couple of cases of fibroma, that is, myxofibroma of the naso-pharynx, very large ones, one where the tumor hung from the roof of the palatine vault down over the pharynx, and on over the epiglottis—tremendously long. In one of the cases the tumor was quite soft, but the pathologist's report gave it as a myxo-fibroma. If these tumors are pure, that is, pure fibromata of the naso-pharynx, and completely removed, so that the mucous membrane may heal over the cut surface, it would seem that there should not be any recurrence. If they do recur, there is certainly some other element in the tumor than simple fibroma tissue.

Dr. Powers: I did not hear what the age of that particular patient was, doctor.

Dr. Philip: The boy from whom the fibroma was taken was 16 years, and the one from whom the myxo-fibroma was taken was 9 years old.

Dr. Powers: This is all very interesting, it seems to me—fibroma, particularly in a boy of perhaps 16 years of age. I have not myself had the pleasure of seeing one for a number of years. I had one very marked case a good many years ago in a boy who came to me at the age of 15, I think, or 16, with his nostril entirely filled, a most exaggerated frog face, with the tumor extending and filling the palatine vault, pressing the soft palate away forward. This was early in the history of those cases; we had not heard of many of them at that time. With the knife I removed large portions, with considerable hemorrhage, and then got Dr. Taylor to work with me on it; and we had to cut a slit in several directions in order to get at it. We cut the soft palate, and found a prolongation from the interior in front of the zygoma. A large tumor had formed there. We had to make an external incision, and took off the outer portion. The other portions were quite largely within the scope of the nasal forceps. There were several recurrences, but they were not allowed to go on to any great extent, and gradually the recurrence came with less frequency; and at last, by the time the young fellow was 20 years old, or thereabouts, the trouble seemed to cease, and I did not hear anything further from him for a number of years, I think in the vicinity of ten years, when I happened to hear that his mother was within reach of the post-office, and I wrote to her, asking how he was. She replied that he had never had any trouble since, was married, had several children, was getting on in the world, and was absolutely free from any of these developments, and seemed to corroborate so far the proposition that these growths tend to cease if the life can be preserved until the age of 21 or 22.

Dr. Philip: In reading up the literature on the subject, I saw distinctly stated in several places that, if it was a fibroma pure and simple, no matter how thoroughly the extirpation might be, there was a tendency to recurrence up to 20 years, even in the cases where they split the soft palate and chiseled away the hard palate. This growth, if you were to feel of it, you would find perfectly dense. I broke, as I told you, I think four wires, and it was only by dint of good luck that we got it at all. Some one has asked me why I did not use the cautery to remove this. I would state that it was almost impossible to get behind the growth. I formed a loop of wire and passed it through the nostrils, down to the naso-pharynx, and then pulled it out of the mouth by a string; but we had great difficulty in pulling the loop up behind the growth, and so I apprehend that, with a more flexible wire, it would have been almost impossible. The case was presented to-night simply to show you how rapidly these growths will return. This was removed on the twentieth of June, and now we have the first of October; those of you who saw it noticed that it was coming back rapidly, and that it was changing its color somewhat, getting darker. And I would state also that, as far as the diagnosis of the character of the growth is concerned, it was of course not made by myself, but by my pathologist, who stands pretty high in the city. He said it was composed almost entirely of white fibrous tissue.

### CATARACT—TUMOR OF THE NASO-SEPTUM.

Dr. W. A. Martin presented a case of "Tumor of the Naso-Septum." I have two cases here. The first I showed you is without special interest—just a perforation of the lens with a long lead-pencil point, which shows a peculiar formation of cataract, being a pyramidal cataract, with the base located at the posterior capsule; there is nothing else of special interest. The other case, however, is especially interesting. He came into my office the day of our last meeting, which was on the 26th of September. At that time I tried to induce him to come around, but missed connection, so we did not have a chance to see him here. When I examined him, he had a button-shaped tumor, probably as large as my thumb nail, on the triangular cartilage in the right nostril. On palpation it was quite hard, and seemed to be very poorly supplied with blood-vessels, with a whitish appearance, that gave me the impression at once of sarcoma. I have already had two sarcomas of the nasal septum, one of which I operated, with numerous recurrences. The other escaped; I do not know where he went. Thinking that I had a sarcoma, the next day, Friday, I cut it off and sent it to a pathologist for confirmation of my diagnosis. In pushing the knife up, I found that the tumor lapped over the edges like a mushroom, that I could get the knife under the edges. I had no trouble in shaving it off, and I noticed that it left a white surface about one-third the size of the tumor itself. I thought at first that this was simply the pedicle of the tumor; but when I used the probe, I found it was brittle, and that I could dig the cartilage out with the end of the probe. When he came back again, there was a distinct membrane around the point of extirpation of the tumor like a diphtheritic membrane, which I could separate with the probe, leaving a bleeding surface. I was a little absent-minded, and did not save that membrane. When he again returned, it had spread a little further. This membrane could be easily removed, leaving the cartilage exposed. Over the cartilage there was no bleeding surface whatever; but there was around the edges a little. But I painted it with a four per cent solution of formalin, thinking I had a diphtheritic membrane to deal with. Then that same afternoon I got a report from Dr. Montgomery, in which he said that he was not able to determine the character of the tumor; that it had some of the characteristics of sarcoma, and some appearance of epithelioma; but the general appearance would lead him to decide tht it was either a granuloma or an inflammatory tumor. However, two days later I took a piece of the membrane that was still forming there, particularly over the site of the original growth; it was quite thick, as you saw it to-night, and sent it to Dr. Ryfkogel. I told him to examine particularly for diphtheritic bacilli and streptococci. His report came back two days later that the only germ he could find was the staphylococcus pyogenes aureus; and he said that he never knew it to form a membrane. At present the membrane is still there, and that is the only germ found in it. You can lift it up, and the cartilage is still soft and crumpling, and you can dig it out with the probe. I have not been helped out by an examination of the membrane, and I am still on the fence whether I have a malignant growth or not. If you will notice, the cartilage is broken away; there is nothing left there but the mucous membrane of the other nostril, covered over by this false membrane, and you can dig that membrane right off. Dr. Montgomery was unable to state positively what it was from his examination. I was unable to elicit any history of syphilis, but have been keeping him on twenty-grain doses of iodid of potassium three times daily. It has not the microscopical appearance of a gumma.

Dr. Frederick: I had a case in which the appearance was very similar to that which Dr. Martin describes, in a man of about 33 or 34. The tumor, when I first saw it, was pretty far back at the junction of the middle and posterior thirds of the septum, and I removed it at the time, but did not take the pains of having a careful examination made. The tumor has since then recurred, and the pathologist's report of a piece removed two or three weeks ago, would place it amongst the granulomata.

Dr. Payne: I would like to add this, that the case is exceedingly interesting; but since nothing definite can be made out of it at the present time, I hope Dr. Martin will keep track of it, and give us a final report later.

### TRAUMATIC CATARACT.

Dr. M. W. Frederick presented "Two Cases of Traumatic Cataract." The first case I show this evening is that of a little girl aged 5. This girl was struck in the region of the right eye about three months ago by a swinging door. I did not see the child until some two weeks after the accident. At that time there was no visible sign in the skin of any accident. There was no evidence of any injury to the orbital margin, nor was there any change in the conjunctiva of the eye; but there was a very distinct evidence of trauma, in that the cataract was almost as white at that time as it is now, and the pupillary margin of the iris at that time was already firmly bound to the lens capsule; and also there was in the cornea a number of small vessels. The appearance of the eye at this time was virtually the same as it is today, except that the opacity of the lens is growing more and more dense, and that the eye is turned in. There is, as you see, a strong convergence of the eye. There is practically little change in the eye in the last two months, although the child has been constantly under observation all the time. The second case I show is that of a man hit in the eye three weeks ago by a piece of iron about an inch long. This piece of iron has made a wound in the cornea, extending from limbus to limbus at the junction of the upper and middle thirds, cutting clear through the cornea, cutting in through the iris, tearing part of it away, and causing a traumatic cataract. When I saw him, the anterior chamber was filled with lens matter, so that one could not determine the exact nature of the injury. And the lens matter since that time has been largely absorbed. In this case there was no perception of light; but, since the lens has cleared up, he has been able to distinguish moving objects. There is no doubt that the eye should be operated upon, and the reason that I have not done anything yet is on account of the visible signs of inflammation of the cornea; and I am very much afraid if I were to do anything at the present time, it might set up some violent inflammation, which would destroy the eye, and in such a case as this one should wait until all visible signs of inflammation have passed away before finally resorting to surgical procedure.

Dr. Martin: I wish to remark that the appearance of those blood-vessels on the cornea is something unusual. Of course, I can not tell what the condition was originally, neither can Dr. Frederick; but, as far as I could judge from the hasty examination of the cornea, there was no lesion there whatever.

Dr. Frederick: None at all.

Dr. Martin: I have always been accustomed to associate blood-vessels there with a parenchymatous inflammation, or ulcer of the cornea, or some lesion of the cornea itself, which will cause the vessels to appear for the reparative process.

The President, Dr. Eaton: It seems to me that this question as to whether we should operate in a case of that kind must remind us of the case that Dr. Powers presented to the society two years ago. You remember it was a case of traumatic cataract, in which I ventured to differ from the rest of the members as to treatment. Since then Dr. Lewis called me in consultation over a case of traumatic cataract, almost exactly similar to the one Dr. Frederick has shown; but the eye completely recovered, and it seems to me that the principle laid down years ago by De Wecker is the main one. He asked, "Why add another injury to the one that already exists, unless there is a dislocation of the lens?"

Dr. Martin: What do you mean by a complete recovery?

The President: I mean to say that the eye is positively without any inflammation, and has been restored to something like twenty-sixtieths vision.

Dr. Frederick: It is now three months since the little girl was injured.

Dr. Payne: The doctor speaks of there being permanent adhesion to the capsule of the lens, and he still continues to use atropin. The posterior synechia is complete, extending around the entire border of the iris, and all inflammation has subsided. What can be gained by the use of atropin now? If it does anything, it simply keeps up a tugging at this adhesion, and that in itself is enough to produce blood-vessels running from the limbus into the cornea; I think atropin's stimulating effect upon the dilator fibers of the iris should be remembered in such cases.

Dr. Frederick: Dr. Payne attributes the presence of vessels in the cornea to the use of atropin, and I wish to state that these vessels were present before atropin was used, and that I used atropin to subdue corneal inflammation. Of course, I suppose Dr. Eaton made a mistake in talking of a complete recovery in Dr. Serviss' case. There can not be any such thing as a complete recovery until the lens is completely removed, and the question in my mind is when to do it. As to the second case, I shall do nothing in that case, unless, after a sufficient time, the circumstances justify it, and not at all if the man recovers any useful vision. He is a machinist by trade, and I thought it would be better to let it go than to operate or add to damage already existing. Of course, if the lens is removed, he probably would not have much use of that eye, inasmuch as people of that class do not wear glasses at all. So if he gets any useful vision by absorption of the lens matter, I shall not attempt to perform a surgical operation.

Dr. Payne: I would like to ask Dr. Frederick if he uses atropin for the purposes of quieting the eye, in what way it acts to quiet it in this case, when the synechiae are fixed and permanent, and nothing can be accomplished by trying to dilate the pupil; accommodative effort is about nil, on account of the complete opacity of the lens; the secluded pupil can not give atropin's paralyzing action upon the pupil any chance; so there is nothing left but its stimulating effect upon the dilator fibers of the iris, which can only have the effect of pulling upon the synechiae.

The President: It is simply a question as to whether it does quiet it or not: if it does, it seems to me that proves it.

Dr. Payne: By its paralyzing action in every way, I suppose?

The President: I do not understand that that is the only action of atropin; it acts also on the ends of the sensory nerves; sometimes that is the main action.

Dr. Deane: I think it has also an action on the ciliary muscle and processes, and in that way, while independent of its action of dilating the iris, it puts that muscle in a state of rest rather than in a state of tension.

### CONGENITAL ABSENCE OF IRIS.

Dr. Redmond Payne presented a case of "Congenital Absence of the Iris." I had intended showing both cases this evening, but only the mother could be present. The history is simply this: Two cases of aniridia, congenital absence of the iris, a mother and daughter. There was no history of the condition in the mother's family, nor of any other malformation or abnormity, but the mother showed a symmetrical aniridia in both eyes. Her little daughter, 7 years of age, presented exactly the same condition. Another point of interest in the history is that of the three sons in the family, whose eyes were perfectly normal, while of another little daughter, now dead, the same abnormal condition of the eyes was present; so that in this family the aniridia is distinctly hereditary in the female line. The mother is now 48 years of age. Three years ago the lens on the right eye became cataractous, and was extracted, the vision of which is now twenty-eightieths, with a plus 18 sphere. The lens of the left eye began to get opaque about two years ago, and is now completely so. It was dislocated upwards, so that one-third of the lens rests beyond the corneascleral junction, evidently upon the ciliary body; thus dislocated, it shows a clear crescent below the lens, through which one can see the fundus when the eye is turned strongly upward. In the case of the little daughter the eyes are smaller than normal, and the aniridia is complete; but the lenses of both eyes are perfectly free from any opacities. The lenses appear perhaps a trifle larger than normal, there being but little space between their margins and the ciliary processes. A number of theories have been advanced as to the cause of this condition. Arnold attributes it to the failure of the formation of the anterior ciliary arteries; but the microscopical sections have since shown these to be well developed. Manz believed it due to unusually strong union of the lens to the cornea during the development period, thus causing pressure at the point of origin of the iris. It would seem that this is the more probable explanation of the defect, for at the time the iris is developed these structures are in apposition; and, as there is a tendency to microphthalmus in these cases, the lens, which does not so readily partake of these changes, may well be so large as to cause pressure at the point of origin.

Dr. Deane: This case the doctor presents does not seem to be one which would elicit any particular discussion. The only real interest that I can see in such a case is what part heredity plays. He states that the mother has this condition, and also one daughter; I do not know whether he has made any further inquiries into the history clinically or not, as to colobroma of the iris, hair-lip, or fissures in other portions of the body.

Dr. Payne: I have stated that there are no more abnormalities in the family anywhere.

The President: Is the lens present in the right eye of the mother?

Dr. Payne: In the right eye an extraction has been made.

The President: Is the refraction any less than it would be in an ordinary eye after the lens is removed? Is the cornea only small, or the whole globe?

Dr. Payne: The whole globe is small. The case seemed of considerable interest to me in this, that the complete opacity of the lens in the left eye enabled one to see very readily the absence of the iris, the entire absence of the iris, which is difficult when the clear lens is present, because of the uniform dark background. It was also interesting from the fact that it was distinctly hereditary in the female line of the family, although there was no history of any abnormality, either on the eye or any other part of the body in the mother's family.

### CHRONIC NON-INFLAMMATORY GLAUCOMA.

Dr. Deane presented a case of chronic non-inflammatory glaucoma of the right eye, complicated with a senile cataract of the left. The case which I have brought this evening presents no unusual features, except in one eye a typical and marked non-inflammatory glaucoma, and in the other a senile cataract with no outward signs of glaucoma, both conditions having existed over a period of eight years. None of the symptoms of glaucoma seem to be lacking in the right eye, and they are so typical that one can not help but admire so marked a clinical picture. The atrophic, immobile, dilated excentric pupil, with a grayish-green hue, the dilated conjunctival blood-vessels, the very slight increase of tension (as is observed in these chronic forms), the cupped disc (3 mm. in depth), pulsating retinal arteries, and contracted field of vision on the nasal side, go to make up a characteristic form. I call the cataract in the left eye senile, because it presents none of the characteristic appearances of glaucomatous cataract. This eye, while harboring such a condition, shows none of the external signs of glaucoma, which would seem unusual, as with the already increasing tendency the formation of cataract tends towards increase of tension. The vision of the left eye is quantitative merely. His field of vision is good, as shown by the lighted candle; the pupil is mobile and of normal size, tension normal, no dilated blood-vessels in the conjunctiva. His family physician sent him to me with a letter, requesting me to remove the cataract, which I will do, though, of course, guarding myself from any promises as to the amount of vision obtainable after extraction. As the vision of the right eye is still $\frac{20}{50}$, the advisability of an iridectomy is to be considered, which, I believe, under the most favorable circumstances, might hold his vision where it is. A large iridectomy is advisable in extracting the cataract from the left eye.

Dr. Martin: Has he qualitative vision in the left eye? Does he merely see moving objects without the outline?

The President: We could spend all night talking about the right eye of this patient. I do not propose to say much. The case has only been under observation for a short time. Still, it is the same old question, What is glaucoma simplex? I have operated, as you may have, on these eyes as I would in any other in a case of glaucoma, and I have never restored any sight, but I have seemed to stop the process where it was. It is a great problem what the disease is.

Dr. Frederick: I have a case here in this city of a lady, that was very similar to the one described here. It puzzled me when I first looked at it. When she first came to me, I think between seven and eight years ago, early in my practice, I debated in my mind what to do for that eye. I very wisely decided to let it alone. I met her about six months ago, and I found her vision exactly the same as it was seven years ago. So, I am afraid if I had attempted an operation, having only one eye, that might have stirred up trouble. And I have congratulated myself ever since that I did not.

The next order of business being the exhibition of specimens, the president demonstrated a modified stereoscope, known as Worth's amblyoscope, the invention of Mr. Claude Worth, of London, and stated that Worth based the action of this instrument mainly on the fact that the great object we have in curing strabismus is to develop the fusion faculty in the young child. We can not always use an ordinary stereoscope for this purpose, simply because the eye often turns so far in that the line of vision is obstructed by the partition. The two tubes are at an angle of 120 degrees to each other. A very admirable thing about the instrument is that we can put a lamp before each tube, so that we can increase the light for the deviated and decrease it before the good eye in such a way as to enable the squinted eye to see the object. Another point about it is that it is a device which interests all children; we know how quickly they lose their interest in all schemes at exercise to get back the fusion power and central fixation. But with this they are immediately amused. The instrument has been, in the hands of Mr. Worth, very useful. The number of treatments required varies according to the tractability of the child; and it also varies according to its intelligence. We may have excellent sight, but, as long as the good eye is used, we can not, unless we cover the other, get fusion under any circumstances at all. Of course, you can not do that in an ordinary case, and its action is different in that respect. Even with this instrument we can not make some eyes fix.

Dr. Payne: Is this instrument supposed to be taken home by the patient and practiced there?

The President: In the case of a young child you would have to take it in your lap, and show it. With a great number of children four or five visits make a notable change in the amount of deviation.

## MEDICAL NEWS.

Dr. G. R. Hubbell announces the removal of his office and residence to "The Sainte Marie," 1233 Polk Street, near Sutter.

Dr. C. F. Taggart, of Los Angeles, was appointed chief surgeon of the Salt Lake Road, commonly known as Senator Clark's road.

Dr. T. W. Huntington announces the following change of address: Office, Clark Building, 406 Sutter St.; hours, 2 to 4 P. M.; telephone, Drumm 1; residence, 2629 Pacific Ave.; telephone, West 833.

Dr. E. Le Roy Wemple, Jr., announces that he has opened his office at 406 Sutter Street. Office hours, 9-10 A. M., 1-3 and 7-8 P. M. Telephone, John 3531.

## REPORTS OF CASES.

### STRYCHNIN POISONING.

By John C. Spencer, M. D.

Summoned hurriedly on the morning of Nov. 18, 1901, to see a boy of two and one-half years, with a statement that the child was suffering from convulsions, I found a well-nourished child that was having repeated tonic spasms of the entire musculature of the trunk and extremities, affecting the extensor groups most markedly. The rigidity was of so pronounced a character that an attempt to raise the legs from the bed by the hand beneath the heels resulted in raising the entire body, with the occiput as the only point touching the bed. There was a well-marked trismus, with lateral and upward retraction of the angles of the mouth. There was also a fixation of the diaphragm, varying in intensity with each spasm, but with the succeeding ones severe enough to interfere with respiration and produce marked cyanosis and momentary loss of consciousness, due to partial asphyxiation. Excepting this momentary syncope, the pupils were quite widely dilated, and during the spasms to the extreme limit. There was perfect consciousness. A history was supplied by the parents that the child might have swallowed one of a number of small pills which had been left within its reach. Hasty inquiry at the pharmacy from which they had been procured, close by, brought out the fact that each pill contained one-twentieth of a grain of strychnin sulphate. A small enema, containing .6 grm. of chloral hydrate, sufficed to narcotize the child. The spasms ceased eo ipso. After one and one-half hours the child awakened, apparently none the worse for the experience. Before treatment was instituted, the spasms recurred on an average every two to three minutes, and would vary between thirty and sixty seconds in duration. As nearly as could be learned, a period of from one-half to three-fourths of an hour elapsed between the ingestion of the pill and the first symptoms.

## NOTE ON A CASE OF SCOPOLAMIN POISONING.

By L. Newmark, M. D.

One evening about 8 o'clock, a physician, who was suffering from a coryza, accompanied by a headache, intended to relieve the congestion of his nasal mucosa, by instilling into his nose 15 or 20 drops of a solution of cocain, but by mistake took about that quantity of a one-tenth per cent solution of scopolamin hydrobromate. In a short time he felt very much flushed, and there was a severe throbbing in his head. His vision was affected, and at times he seemed blind. Some friends, who had assembled at his house that evening, observed the congestion in his face, and, being informed that he did not feel well, withdrew. The doctor saw them to the door, and with this act his distinct memory of the events of the evening ceased. His wife, missing the sounds of company below, went downstairs, and found her husband in a confused state of mind, regarding himself in a mirror. He was restless, seemed to be under the impression that he had business to attend to, and wanted to leave the house. He was with difficulty prevailed on to remain and undress. When objects were handed to him, he would immediately drop them. When Doctor Chismore and I saw him, at about 11 o'clock, his pupils were widely dilated. He was wandering about the rooms, evidently impelled by vivid visual hallucinations. He would gaze intently at imaginary objects on the wall, or on the chairs, viewing them with much interest and curiosity, and expressing his wonder; he would try to grasp them or to brush them away. Towards midnight he manifested some attention to what was said about him. He slept through the second half of the night, and awakened with a normal mind. The paralysis of accommodation persisted for three days.